SEP 1 1926

Medical Lib.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature.

WITH SUPPLEMENT.

No. 3424. SATURDAY, AUGUST 21, 1926. **Price 1/3**

PROPHYLAXIS AGAINST COLDS AND INFLUENZA

The following is abstracted from the Report of the Medical Officer of a Boarding House attached to a well-known Girls' School in West London:—

DURING the past four years 128 girls were inoculated with ANTI-CATARRH VACCINE (St. Mary's Hospital), and of these "not one girl missed a single day at school owing to colds or influenza." During the same period 32 girls were not inoculated, and of these 19 were confined to bed with colds or influenza, and 2 had pneumonia.

Percentage of illness from colds and influenza amongst	**INOCULATED GIRLS**	***Nil***
	UNINOCULATED GIRLS	**59·6**

In view of the probable recurrence of influenza in the autumn, it is important that all school children be inoculated after the summer holidays, before they return to school. Anti-Catarrh Vaccine, Prophylactic, is supplied in sets of three graduated doses for one adult; also in ampoules of 1 c.c., and in rubber-capped bottles of 25 c.c.

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answered for a time. At last no tube could be introduced and Dr. Merrin had to enlarge the fistula by a knife, until it took a 24 size. There was no trouble then for another few months, when leakage occurred from the side of the tube. Pads of various shapes have been tried—round, oval, square, hollowed out in the centre, bulged at the place where the leakage seems to occur—but all to no purpose. The leakage is not constant; it always ceases when the patient lies down, and sometimes he may be able to walk and sit about for a few days and keep dry. Varying the length of the tube in the bladder has been tried, with the idea that kinking might occur if too much projected into the bladder. My own view of what has happened (says Dr. Merrin) is that the pad has worn a sort of hollow above the symphysis pubis, the result of months of continual pressure, and that when the old gentleman stands up or sits down the pad rotates and causes a partial occlusion of the tube, with leakage at its side. The pad was dispensed with, but matters got worse. A 22 or 24 tube is used at present and is a very tight fit.

*** We have referred this to Mr. R. Ogier Ward, F.R.C.S., who has been good enough to state in reply that the operation of permanent drainage for enlarged prostate is generally successful, and the apparatus described usually keeps the patient quite dry. It is impossible to be sure of the cause of the trouble in this case without seeing the patient. The fault does not lie in the pad, but possibly in the tube, although this does not seem likely, since variations in both length and size have been tried. The other source of trouble is that the sinus is not long enough to make watertight contact with the tube, a matter of technique in performing the operation. All that can be suggested is that the tube be introduced for about 3½ in. Another way to check the length is to palpate the end of it per rectum and then withdraw it slightly. If this fails it is to be feared that nothing short of further operation, either to improve the sinus or to remove the prostate, can put the patient right.

INCOME TAX.

Motor Car Depreciation Allowance.

"T. F." desires further explanation as to the interaction of the depreciation and renewal allowances.

*** It has been held (Caledonian Railway Company *v.* Banks) that the motor car depreciation and renewal allowances cannot be granted concurrently, but under Rule 6 of Cases I and II, Schedule D, as extended recently to professions, depreciation allowance and "obsolescence" allowance can both be claimed. For practical purposes the difference between the latter allowance and the renewal allowance are (1) that obsolescence applies only where the car has ceased to be suitable for the purpose to be served (this may generally be presumed), and (2) that there should be added to the amount received for the sale of the displaced car the total amount of any depreciation allowances which have been given for income tax purposes in respect of that car. The depreciation allowance is correctly calculated on the basis of the written-down value as at the commencement of the year. In several cases that have come to our notice 20 per cent. has been taken as the basis, but the rate would presumably vary with the type of car—the better the construction the longer it will be fit for professional use, and therefore the smaller will be the appropriate percentage allowance. The annual depreciation allowance is valuable as giving something at once, but it is important to bear in mind that the obsolescence allowance is the ultimate remedy. If "T. F." temporarily loses the £75 allowance for 1925-26 he will pick it up again when he makes his obsolescence claim on his present car. We regard the inspector's action in refusing the £75 allowance for that year as unusual; "T. F." has, we believe, a valid title to it, but it might necessitate the loss of the renewal allowance, and it is perhaps best to accept the position, looking to the obsolescence claim to rectify the matter in the long run.

LETTERS, NOTES, ETC.

DRUG ADDICTS.

DR. A. G. WINTER (Crowborough) writes: I see we are to be subjected to more vexatious laws governing the administration of "dangerous drugs." Plain men like myself want to know where the drug addicts are that call for such measures. I have never seen a case in general practice: my partner has never seen one; more than that, a very eminent London neurologist whom I met in consultation told me he had been asking general practitioners their experience of such cases for two years—and none of them had ever seen one!

MENTAL IRRITABILITY AND BREAKDOWN IN THE TROPICS.

DR. V. D. WYBORN (Federated Malay States), after experience in several countries in the East having widely differing climatic conditions and environments, has formed the opinion that mental irritability and breakdown is due solely to a psychological cause, that of a "lack of associations." He writes: A person removed from his native surroundings, to which his mentality is adjusted, to a new environment, whether tropical or polar, will suffer until new and mentally satisfactory associations and mental adjustments have dealt with the change. This may or may not occur, depending primarily upon his mental condition as judged from infancy upwards. All physical causes, such as heat, light, and glare, are merely aggravating agents, and are not to be confused with this, the prime cause of the trouble.

DR. T. A. G. HUDSON (Nakachari, Assam), in the course of a letter on the subject, writes: My observations have all pointed to the fact that it is work *per se* which is responsible for irritability of temperament. A man decides to make the tropics his home, either for a long spell or a short one—and I would emphasize that a short spell means at least three years. He comes out to new conditions of life in all its phases, and it is easy to picture that man trying, during his probation spell, to increase the output of the work done by the natives under him, and the result. In all cases, I might say, no physical or mental effort on the part of the newcomer will influence the native, who still regards him with suspicion. . . . I would urge that all Britishers who are domiciled in the tropics should, in addition to their home leave, have at least a fortnight's complete rest and change locally every year. I have considered mental irritability and breakdown as they arise without any pathological cause, or as they may be finally responsible for pathological changes.

DR. J. M. MACPHAIL (Middlesbrough) writes: With reference to mental irritability and breakdown in the tropics, I am surprised at the scant attention paid to the problem of colour: are the invalids dark or fair, and in what proportion? In England there is an impression that the fair people are dying off and are being replaced by the darker people, who are probably more akin to the original inhabitants. This tendency seems more marked in the large towns. Do not fair people (he asks) suffer more from the attacks of fleas, etc., and are they not more liable to tuberculosis? How do they compare in their reaction to drugs, and to prolonged direct or indirect sunlight? But (he continues) who are the fair? The average man finds in the hair no certain guide, and it is necessary to bring into review the colour of the skin, eyes, eyebrows, and moustache, as men may have indiscriminate or darkish hair, with very blue eyes, and fair eyebrows and moustache. This side of the problem may be of interest, and, in any case, it bears an interest of its own.

MEDICO-HISTORICAL POSTCARDS.

AMONG its issue of "old Ashmolean postcards," the Oxford University Press has included a history of medicine series. No. 30, reproduced in colours, represents an amputation scene from a window in the Bodleian, dated 1660. No. 71 shows a Zodiac man illustrating the application of the twelve signs of the Zodiac to the principal regions of the body. No. 72 is an anatomical diagram of the fourteenth century, given by Ashmole to his museum. No. 73 depicts the human brain and the recently discovered "circle of Willis"; it is one of several anatomical drawings made by "C. Wren of Wadham College; 1664." No. 74 is from a diagram of 1631, representing a sick man in bed being besieged by microbes from the four quarters. The walls of his Castle of Health are still secure against the attack from east, south, and west, but the northern bastion has been breached by microbes from the icy regions, which are swarming round the invalid. A physician is feeling his patient's pulse and is holding up a vessel that looks like the urine glass used in uroscopy. The price of this interesting packet of postcards is 6d.

A MEDICAL TREATISE FOR NON-MEDICAL MISSIONARIES.

REFERRING to medical missionary work in Africa, as described in a recent issue of the *International Review of Missions*, it was mentioned (BRITISH MEDICAL JOURNAL, July 31st, 1926, p. 212) that one of the contributors to the *Review*, Dr. P. H. J. Lerrigo, had suggested that a special medical treatise for the use of non-medical missionaries should be prepared by a committee of medical practitioners with a knowledge of the special requirements of the entire African field. We have received a letter from Messrs. John Bale, Sons and Danielsson, Ltd., stating that they publish a *Manual of Tropical Disease and Hygiene for Missionaries* by Drs. E. A. and T. Miller Neatby (1923), price 12s. 6d. net.

"THE MEDICAL DIRECTORY."

THE editors of the *Medical Directory* ask us to state that the annual circular has been posted to each member of the medical profession, and that they will be grateful for its return by an early post. If the form has not been received a duplicate will be sent on a request addressed to 7, Great Marlborough Street, London, W.1.

THE ANNUAL DINNER: CORRECTION.

IN the report of Sir Berkeley Moynihan's speech at the annual dinner at Nottingham (SUPPLEMENT, July 31st, p. 92) reference is made to Dr. H. N. Anderson. This is a mistake; the old friend to whom Sir Berkeley alluded was Mr. A. R. Anderson, C.B.E., late senior surgeon to the General Hospital, Nottingham, now retired and living at Bournemouth.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 40, 41, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *132*.

A British Medical Association Lecture

ON

DANGERS ASSOCIATED WITH MEDICAL PRACTICE AND HOW TO AVOID THEM.*

BY

W. E. HEMPSON,

SOLICITOR TO THE BRITISH MEDICAL ASSOCIATION.

The title of my lecture is of your own selection. It covers a wide field, which extends to and embraces both ethical and legal aspects of medical life and practice, though within the compass of time at my disposal I cannot hope to do more than lightly touch the fringe of either.

The responsibilities which a medical man assumes appear to fall within three distinct categories—to himself and to his profession, to his patients, and to the State. I will analyse them briefly in this order, and will then proceed to ascertain what dangers are attributable to each, the circumstances in which they arise, and the means which are to hand for avoiding them. In doing so it will be my endeavour to avoid legal technicalities.

The most valuable attributes a man may claim to be endowed with are those of sound common sense and breadth of understanding, and a medical man is not to be excepted from this general observation. As a general practitioner he is, within the households of those to whom he stands in the relationship of family doctor, regarded and accepted as guide, philosopher, and friend by those who grow up around him, and his ministrations extend as frequently to alleviation of the cares and worries of the afflicted as to the cure of their bodily ailments. It is in these circumstances that fundamental common sense and knowledge of human nature stand him in greater stead, and contribute more materially to the welfare of the patient, than the most highly cultivated "bedside manner."

I counsel you to beware of false gods and the pursuit of the mirage of illusive attractions which are not to be regarded as orthodox. The necessity for observance of the orthodox obtains in every walk of life, and in none is it more urgently needed than in the medical profession.

I read with interest and approval a leading article in the *Times* of March 4th, headed "Doctors and the public," and should wish to adopt as my own sentiments the following paragraph which I extract from it:

> "To contend . . . that the public interest can possibly be served by exempting anyone who is to enjoy the status of a registered medical practitioner, from training in those sciences by means of which alone a diagnosis of disease can be made, is on the face of it ridiculous. There can be no 'backdoor' to the *Medical Register*. Nor can the public suffer for a moment any depletion by doctors of their right to determine the nature of a patient's complaint."

Of late years there have sprung up many new cults, such as osteopathy, chiropractic, Abramsism, and Eddyism, which have led to much discussion not free from controversy. Such lures as they may possess are to be avoided by the self-respecting practitioner as presenting features which may tend to imperil his good name and professional reputation.

I feel it incumbent upon me to accentuate this, as I was present not long ago at a medical gathering at which a paper on Christian Science teaching and faith healing was under discussion. The laxity of views then expressed by certain members was a revelation to me, and I did not mince my words in the whole-hearted condemnation which I bestowed upon them. It is playing with fire to flirt with unorthodox practices of the nature indicated, and plain speech on the subject must therefore not be resented.

A few years ago I was retained to represent the relatives of a man who died a death of lingering agony under Christian Science treatment when operative measures would most certainly have relieved his sufferings, if not actually have effected a cure. I was successful in obtaining the committal of the healer for manslaughter; and let it be remembered that the man who had been drawn into the mesh was a member of your own profession. The path of professional rectitude is the only safe one to travel if you desire to retain your self-respect and be accounted a man of accepted position within your profession.

Consider what are the assets which a medical man can claim. In my conception they lie in his professional good name and reputation, and the preservation of them unsullied should be and must be, in the case of every self-respecting man, his lifelong endeavour. It is well written:

> "This above all—to thine own self be true;
> And it must follow, as the night the day,
> Thou canst not then be false to any man."

You will perhaps ask me where guiding light to the uninitiated is to be found in these matters, and my short reply is—by reading the British Medical Journal and studying the transactions of the British Medical Association. Assistance upon every phase of ethics and ethical teaching is to be obtained through that body, and the annual *Handbook* issued by the Association should be in the consulting room of every practitioner. A new and enlarged edition of this work is in the course of preparation; it will contain material of inestimable value to every practitioner, be he newly qualified or of many years' standing.

It is, moreover, to be borne in mind that no one is turned down who applies to the Association for advice in circumstances of either doubt or difficulty, and special facilities are afforded to those who have but recently entered the profession.

I cannot refrain from quoting the following passage, which recently caught my eye in a leading article in the *Medical Journal of Australia* dealing with the position of the Association in regard to the medical profession.

> "To-day the British Medical Association is stronger, more important, and more firmly established in Australia than ever. No voices are now heard advocating the establishment of an Australian Medical Association. No one wishes to weaken the bond. Just as the Empire encircles the earth and arouses pride in the breast of each and every citizen, the ideals of Charles Hastings have been cherished by British subjects through ninety-three years and awaken the pride of each member of the British Medical Association in the Commonwealth."

It was my privilege five years ago to visit our oversea dominions of Canada, British Columbia, New Zealand, and Australia, and, holding the accredited position which I do with your Association, I was accorded a gratifying welcome wherever I went; it opened my eyes to the power which the Association holds, not only at home, but also throughout His Majesty's dominions beyond the seas. The position in Australia at that time was somewhat unsettled, and the conversations which then took place were of assistance in establishing matters upon a footing which is represented by the sentiments now expressed in the quotation from the *Medical Journal of Australia* which I have just read.

Let me warn you against the practices of fee-sharing and accepting commissions. Any principle of fee-sharing, or dichotomy, as it is called, is only to be permitted within the terms of a partnership arrangement or in circumstances where one medical man acts for or assists another. The accepting of commissions from life insurance companies, manufacturers, or under like trade conditions, does not conduce to the dignity of the medical man, nor can it be done without the possibility of danger.

Associations of the nature of partnerships are frequently entered into light-heartedly by members of the profession. I regard them, in the light of many years' experience, with a much more serious eye. They assume to me the character of a business marriage, in which, if it be possible, a preliminary courtship is eminently desirable. I have now been associated with medico-legal work for something like thirty-five years, and during that period many hundreds of cases of partnership disputes have come under my consideration; this shows that more thought bestowed upon the arrangement prior to its being entered into and cemented would have avoided much trouble.

The responsibilities of a medical man towards his patients, regarded from a legal standpoint, were aptly summarized by a learned judge in the following words:

> "Every person who enters into a learned profession undertakes to bring to the exercise of it a reasonable degree of care and skill. He does not undertake, if he is a surgeon, that he will

* Delivered at Leicester, March 26th, 1926.

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To my mind the realization of the risks to the profession in the two respects I have mentioned led to the formation in 1885 of the Medical Defence Union, which I believe to have been the pioneer society in this protective movement. Do not fail to observe and do not ignore the danger signal which is ever present in these cases. Some complaint in regard to the account rendered, with a carefully veiled innuendo that the patient had not made satisfactory progress or recovery, is usually to be found as the starting-point, or alternatively a suggestion that, if some other remedy than that prescribed had been resorted to, better results would have been obtained. There are various methods of wrapping it up so as to obscure the hidden poison, but, rest assured, it is there right enough, and needs to be dealt with strongly and diplomatically. Do not allow a communication of this nature to "lie on the table"—it marks a falling barometer as a prelude to trouble brewing. If you experience doubt or difficulty as to the manner in which it should be dealt with, then seek advice on the subject through those channels of knowledge and experience which are open to you. If you elect to sit under imputations upon either your professional honour or your skill, take it from me that you are heading for trouble.

One further point which flows from this advice must also be accentuated—namely, "beware of compromise." I say unreservedly and in all seriousness that nothing can be more disastrous. The admissions to be read into this procedure are in every respect prejudicial to reputation, and form but the prelude to further embarrassment in the future. If time permitted I could give hundreds of instances, within my own experience, in which the truth of these sentiments has been borne out.

If your account for services rendered is impeached on the ground that you did not give value for money, your duty to yourself and to your profession is to enforce payment of it through the proper legal channels. By the same token, if your patient, or his or her near relatives, impugn your treatment, insist upon a full and complete withdrawal of such allegations, and refuse to continue further to attend them if this be not forthcoming.

I am convinced that if this high standard of thought and action which I advocate were uniformly observed throughout the profession, fewer cases of actions savouring of thinly veiled blackmail would be heard in our courts. Let me give one instance in point, so as to drive the matter home.

My client, a member of your profession, was threatened with an action for damages arising out of his alleged unskilful treatment of a patient. Left to himself he would have settled it on any terms within the compass of his means as he dreaded the publicity which would follow upon its being heard in court. To this I absolutely refused to be a party. The solicitor acting for the claimant came and saw me, having travelled some 200 miles to do so. He opened with an offer to accept £100 and his costs, coming down by gradations to his travelling expenses to London, which I incontinently refused. He left much chagrined, and did not trouble me further.

But now comes the tribute—a brother professional friend of this solicitor was placed in similar case with regard to another medical man whom he purposed suing, and, meeting him and hearing the facts, my friend gave him this salutary advice: "If you are up against Hempson, drop it—you'll get nothing out of *him*; I've tried it myself, and it is worse than kicking a stone wall." Forgive the egoism with which this story is tinged, and you will, I think, agree that good service resulted to the profession due to my hardness of heart.

No one, whatever his professional status or reputation may be, is immune from risk in regard to these two particular classes of action. They occur in circumstances wholly unlooked for, and are not infrequently associated with cases in which the medical man concerned has felt cause to congratulate himself on the results attained. One example I quote, fertile both in its unlikeliness of occurrence and in its baseness of ingratitude.

A medical man who was going away for a couple of days was driven to the station by his groom, who, on the return journey, took the opportunity of getting drunk. As a result he had a bad spill, was thrown out of the trap and was trampled on by the horse, sustaining a compound comminuted fracture of the right ulna and radius. His arm was temporarily put up at a local hospital and the man got home, the damage to horse and trap representing a loss to his employer of some £50 or £60.

Instead of dismissing him and leaving him to his own devices, the doctor generously retained the man in his employ for three months and gratuitously treated him during that period. Owing to the severity of the injuries sustained, a false joint resulted, with consequent impaired use of the limb. On these facts an action was launched in which damages to the amount of £500 were claimed, based upon allegations of wrongful and negligent treatment leading to loss of full use of the arm.

The late Sir William Thorburn of Manchester finished off the case for us with judge and jury in the evidence which he gave on behalf of the doctor concerned. He certainly was without exception one of the best witnesses I ever called. Under cross-examination by the eminent King's Counsel who had been briefed for the plaintiff he admitted—apparently with reluctance—that he did not agree in all respects with the doctor's treatment of the case. This was, of course, joyfully welcomed, and he was pressed to state fully and explicitly to his lordship and the jury the grounds of this difference. This he did in the most dramatic manner by emphatically stating:

"Dr. X was too humane, he tried to save the arm—I should not have done so—I should have amputated."

Judge, jury, and I think everyone else in court, except the King's Counsel, who was caught napping, rocked with laughter, and the jury then and there declined to hear any further evidence, and gave a verdict for the doctor, which was recorded with costs as against the groom.

This was satisfactory to the doctor, you will say, and yet from one point of view what a farce a verdict of this nature is—namely, so far as "costs" are concerned. In this case the expenses incurred in defence of the doctor were certainly not less than £250, and the groom had not a five-pound note in the world to bless himself with.

Therefore, left to your own resources, it comes to this—namely, that if attacked as this doctor was you have to be prepared to deplete your pocket to the amount I have indicated in vindication of your professional reputation as a self-respecting member of an honourable profession.

Even more apt in illustration of this lamentable phase of matters is to be found in the action of "Venn *v.* Todesco and Elder," which has been before the courts within the last few weeks, and is fully reported in the *Times*. It was being tried for the second time, as the jury at the first trial disagreed.

At this second trial the judge, Mr. Justice McCardie, directed the jury as follows:

"If doctors were to be held liable on the documents and testimony which was before them, then no doctor would be safe." He moreover stated in explicit terms that: "He had formed the conclusion on the evidence before the court that the defendants ought *not* to be held liable." Notwithstanding this, the jury again failed to agree on the merits of the case, and were discharged without giving a verdict, certain technical legal points being reserved for further consideration.

This was an action brought under the orders of the court relating to poor persons, from which it follows that, win or lose, neither of the doctors concerned could hope to recover anything in point of costs, and yet the expenses incurred in their defence in these two trials must have been at least £600 to £700.

I much doubt whether many of you appreciate the value which lies in taking and preserving notes of your patient's cases, thereby recording the treatment prescribed or recommended and refused, as the case may be. The observance of this simple precaution has won many a lawsuit which otherwise might have been lost. I shall probably be told that the general practitioner has not time for this sort of thing, but I can only point out to you the road of prudence and protection, leaving it to you to decide as to the wisdom of following the advice given.

The responsibilities of a medical man to the State are for criminal negligence, the definition of which I have already given.

Civil liability for neglect lies in the failure to exercise reasonable care and skill, whilst gross ignorance or criminal inattention are necessary incidents to support a charge of manslaughter, and a wanton and malicious disregard of human life in the treatment of a patient have been held to amount to murder.

The minds of the profession were seriously disturbed about twelve months ago by the criminal prosecution of Dr. Hadwen of Gloucester arising out of his treatment of a child for diphtheria. Had this resulted in a conviction

perform a cure, nor does he undertake to use the highest possible degree of skill. There may be persons who have higher education and greater advantages than he has, but he undertakes to bring a fair, reasonable and competent degree of skill, and the question which always arises is whether the injury must be referred to the want of a proper degree of skill and care in the person whose conduct is sought to be impeached."

This may be taken as the standard which has to be established to the satisfaction of a jury in any case in which a medical man is sought to be mulcted in damages in an action for malpraxis.

The arrangement between a medical man and his patient has for its foundation and basis that of "*contract*." On the one hand, the patient who retains the services of a medical man undertakes to pay his proper fees for treatment received, and the medical man reciprocally undertakes to bring a due and proper meed of skill to bear and to treat the patient with every reasonable care.

Every man is, however, bound to keep himself abreast of matters moving within his profession, and to show reasonable knowledge concerning them and the application of them in relief of the ailments he is called upon to diagnose and treat.

The obligations of a medical man to the State arise under the head of criminal liability for negligence, and the following extracts from the dicta of learned judges will suffice to make the position clear in this respect.

"Where death is occasioned by negligence on the part of anyone professing to deal with the health of others whether he be a licensed practitioner or not the offence may, under certain circumstances, indicating a wanton and malicious disregard of human life, amount to murder. Of course a medical practitioner who should intentionally and with malice cause the death of a patient would be held guilty of this crime, but in no case will an indictment for murder lie unless there be a felonious destruction of life with malice either expressed or implied. The law holds, however, that every person, whether licensed or unlicensed, who deals with the life or health of any of His Majesty's subjects, is bound to have and to use competent skill, and sufficient attention, and that if the patient die for want of either the person is guilty of manslaughter."

The late Lord Ellenborough expressed himself as follows:

"To make out a case of manslaughter, the prisoner must have been guilty of criminal misconduct arising either from the grossest ignorance or the most criminal inattention."

You have thus before you a brief summary of the obligations and responsibilities which devolve upon a medical man under the three heads embraced within this address, and we may now examine more closely the dangers resulting from the non-observance of them.

To keep within the true and proper standard of ethics secures for you, not only a professional recognition which is worth having lived for, but it inculcates within you a sense of rectitude and pride which is a man's truest guide to right conclusions in matters of doubt or difficulty. Such is the influence so far as both mind and matter are concerned. Deviation from this true course is sure to bring trouble in its wake, with professional penalties or opprobrium attaching which leave their mark upon the reputation of the individual concerned. It is, moreover, to be borne in mind that the memory of quality, be it of services rendered or articles of commerce, remains long after the price is forgotten.

To your credit be it said that in no profession is the standard of ethics higher than your own, and in none is the teaching upon it more clearly laid down than is to be found through the sources which I have already indicated. It is therefore for you to read, mark, learn, and inwardly digest what you have at hand to guide you, and follow the true course thus mapped out for you.

You will, I feel, look for a word from me on the subject of the General Medical Council, against which so violent a storm of public criticism has been directed during the past few months. It has been my privilege to plead before that body for more years than I care to count, and I can personally vouch for the even-handed justice which is meted out to all who come before it as respondents. The Council is invested with statutory powers necessary for the preservation of self-respecting action and discipline within the profession, and anyone who flagrantly contravenes either cannot complain if, in the review of such conduct, an appropriate measure of censure or penalty, as the case may be, is visited upon him. An able exposition of the "Constitution, functions, and procedure" of the General Medical Council, by Mr. Norman King, the Registrar, was published in the Supplement to the British Medical Journal of March 20th (p. 96). I trust that it will be widely read, and that the foolish misconceptions which appear to be so prevalent, together with the unmerited prejudice which has been created as arising out of them, may be thereby removed.

The measure of responsibility of a medical man towards his patient has already been defined, and so long as the standard thus established is conformed to he is rendered free from legal responsibility in point of damages or otherwise.

It is, however, to be recognized that the medical profession is peculiarly open to attack in two particular respects—namely, so far as actions for malpraxis are concerned, and with relation to imputations upon the practitioner's professional good name and reputation.

My experience points to the conclusion that of all professional men the medical man is the one most popularly selected for speculative actions. The explanation may be the ease with which the decision of or the treatment by a medical man can be impeached owing to there being no actual fixed science in either medicine or surgery, and to the further fact that, proverbially, "doctors differ."

There are, moreover, unfortunately, within my own profession ready sources available for fostering litigation on terms of easy recompense if the would-be litigant is a person of limited pecuniary resources. Nothing is easier than to attack a medical man on the ground that he has inaccurately or imperfectly diagnosed a particular case, or that, having correctly diagnosed it, he has improperly treated it, or, in the case of an injury by fracture or otherwise, that he has failed to appreciate the severity of the injury, or, having correctly diagnosed it, has failed to apply to it modern and skilled recognized surgery. With people of the class who are responsible for actions of this nature it would seem that anyone's opinion is better than that of the medical man involved.

It is also to be found that little difficulty is experienced within the ranks of the medical profession itself in obtaining evidence whereby to give some shadow of support to the allegations of negligence or incompetence which are preferred. With every allowance made for difference of opinion, it is important—and I should have thought embarrassing—to the profession to find it accentuated to such a degree that, in certain instances to which I can speak, medical men in equal numbers have appeared in open court before judge and jury, of whom one half gave evidence in approval and the other half in condemnation of the treatment or diagnosis by one of their colleagues.

The medical man also incurs a risk, pregnant with danger to reputation, arising out of slanderous attacks upon his professional good name, knowledge, and skill, in circumstances similar to those which prevail in malpraxis actions. A patient, burning under the secret grievance of alleged incompetence or unskilful medical treatment, takes every opportunity of sharing his views on the subject with his friends and neighbours, and the ball thus set rolling increases in magnitude as it travels, until the medical man whose diagnosis or treatment is thus brought into question finds himself the object of unenviable notoriety, the cause of which, in many instances, it may be extremely difficult for him to trace. There is truth in the saying that "Scandal is like an egg—when it is hatched it has wings." We shall, I think, also be unanimous in our agreement with Socrates that thanks are due to the Creator for having invested the human subject with two eyes, two ears, but only one tongue.

As practical evidence in illustration, I may inform you that during one period of fifteen years, in which 2,467 cases were referred to me by the Medical Defence Union, nearly 500 involved the defence of members of the profession in actions for damages founded upon allegations of want of care and skill in the treatment of their patients, and nearly 800 had relation to libel and slander actions either prosecuted or defended on behalf of medical men.

by many causes. I would draw special attention to the fact that his description implies that these vesicles do not enlarge, since he describes them as forming "a brownish-yellow scab of the size of a pin's head."

Here, then, we have an admirable description of the clinical conditions to be found on careful examination with the naked eye alone or with the aid of the simple lens. By the aid of serial microscopic sections we can now see how accurate this description was and how the condition is brought about.

The earliest lesion is a congestion of the capillary loop in the head of a single papilla followed by exudation of lymph from this vessel. This works its way through the epidermis from the base upwards, at first causing a localized swelling by distension of the intercellular channels (the eczema papule), then forming a deep-seated vesicle in the middle of the stratum mucosum by rupture of the intercellular fibrils, and finally working its way up to a position immediately below the horny layer with the formation of the obvious translucent vesicle of Willan. During all of these stages in the acute disease proliferation of histiocytes is slight and leucocytosis of the polynuclear variety absent. The lesion is microscopically and, as far as can be determined, culturally non-bacterial.

I have gone into some detail over these points because I want to build a little further on this conception. This deals adequately with the acute form, but what about the chronic forms of eruption to which we still give the name of eczema?

It is obvious that at any stage the further development of the lesion may be checked. The congestion may be chronic but not intense, exudation may be slight, causing some thickening by oedema over the papilla head (spongiosis), but never becoming sufficiently intense to rupture the interepithelial fibrils and produce a frank vesicle. There will, then, be a sheet of these small papules with some thickening due to overgrowth of the epithelium (acanthosis), accompanied by disturbance of the keratin function and secondary scaling (parakeratosis). Such cases are generally called forth by local traumatism, and when infected with pyogenic organisms the infection is a secondary consequence of the disturbance of the horny layer combined with scratching and inoculation. Willan's conception thus still holds true, even in the more chronic forms, though the lesion may not be obvious to the naked eye. For those forms of pyogenic dermatitis which do not show the fundamental papule or vesicle I would prefer not to use the term "eczema" at all, though this would entail some alteration of our nomenclature.

Such, then, is the anatomical part of the definition of eczema which we are trying to construct, and I turn now to the physiological state of the skin in eczema.

Physiological Considerations.

When we view the ready congestion of the capillary loop in the head of the papilla and its consecutive exudation of lymph from it into the papilla and overlying epidermis and the oedema of the pars papillaris generally, we see at once that these two reactions must be called forth by some stimulus—that is, the papule or vesicle is the anatomical expression of a physiological reaction to irritation (I am using physiological to include both normal and morbid processes).

In this connexion I consider we owe a great deal to Jadassohn, who analysed the reactions of the skin to various agents in a very careful manner. It would take too long to detail his rather elaborate thesis, but I may remind you briefly that, compared with the normally reacting skin, he recognized, first, skins with either a special susceptibility to one irritant so that they reacted to very small doses, or a general susceptibility where the reaction was present to many such bodies; secondly, skins with an idiosyncrasy reacting to minute doses of bodies which to most skins could not be classed as irritants at all. This idiosyncrasy may be shared by a large number of skins in the case of certain bodies, such as *Rhus* and *Primula obconica*, or may be very exceptional, as, for instance, in a patient of mine, who suffered from eczema on approximation to Malmaison carnations.

Recent American observers have maintained that, at any rate in the case of *Rhus*, complete immunity does not obtain, and if this prove to be true not only of *Rhus* but other "idiosyncratic" bodies it impairs the validity of Jadassohn's separation of susceptibility from idiosyncrasy. Nevertheless, as a working hypothesis I think it may be allowed to stand, since the difference between the two types is certainly marked.

What I think we shall all be agreed upon is the fact that exposure to various external agencies will call forth eczema in the suitable patient when it would not do so in the normal individual. That is to say, that in eczema there is a special or general irritability of the skin which we may call in general terms a susceptibility. If we accept this statement as true, and also admit that this susceptibility may be exhibited almost from birth or may develop later in life, we have, I think, all that we can at present obtain for the construction of our definition. This will then run as follows:

> "Eczema is an eruption consisting of oedematous papules and vesicles arising in the deeper part of the epidermis and caused by an abnormal susceptibility, congenital or acquired, to the action of external irritants."

I am hoping that what I have already said will not meet with much opposition from those who have devoted close attention to the study of eczema, and this hope is inspired by my belief that the chief point of dispute relates to the importance of constitutional states in the production of eczema.

The Constitutional Factor.

If I may trespass on your patience for a few more moments I will endeavour to put before you my views of the constitutional factor in the etiology.

As a form of introduction I will draw your attention to a frequent complication of varicose eczema. I may say that I regard varicose eczema as a mixed pyogenic dermatitis on an irritable basis—that is, that it is a hybrid eruption.

It is a quite common thing to come across such a case as this, chiefly in hospital practice. A patient is seen with a recent papulo-vesicular eczema of the arms, extending perhaps to the neck. The eruption is a typical eczema of the scattered variety, showing no particular figurate arrangement or marginal limitation and spread. On seeking for the etiology one finds that there is present in one leg a chronic patch of varicose eczema of long duration. Owing to some recent adverse condition, which may well be an unsuitable local application, the chronic patch has been excited into a more active state. Shortly after this occurrence the rash on the arms has supervened, this rash having, clinically at all events, no similarity with the marginate infection or infected dermatitis, which we dismiss as septic eczema or dermatitis, according to our fancy.

Now in such cases I have repeatedly performed the experiment of treating the patch on the leg to the best of my ability and leaving the eruption on the arms alone, merely explaining to the patient that it will die away untreated, and when I have been successful with the patch on the leg the prophecy has come true.

It seems to me, therefore, that something occurs in the chronic patch which produces the generalized eruption. This might well be either a nervous action, a spreading of irritability from the local patch to the whole cutaneous surface, or a generalized cutaneous intoxication by the absorption of some poison generated at the local patch; or, again, it might be due to a combination of the two processes.

In this connexion I would remind you of two facts. First, that many years ago Bockhart, Bender, and Gerlach found that they could not induce eczema by rubbing live staphylococci into the skin if these were washed, but that they could do so by using the culture filtrate without any organisms; secondly, that Professor Arthur Hall, who has done so much excellent work in the investigation of the etiology of eczema, was unable to cause a generalized eczema in a girl by the local application of the irritant from imitation pearl beads to which she was susceptible. In this instance I must admit that Professor Hall thought he might have been successful had he gone on longer, but

it would, indeed, have been a serious thing for the profession, but I predicted from the first that, in the circumstances of the case as I knew them, this was impossible without perilously straining the law, and I therefore confidently anticipated the acquittal which resulted. Personally, I strongly hold the view that it was a case in which the criminal law should never have been put in force.

Another recent case was that of Dr. Percy Bateman, resulting from his treatment of a woman in confinement, and the judgement in his favour delivered by the Court of Criminal Appeal forms a valuable contribution to the law on this highly important phase of professional life.

It must not be thought that I have painted the picture I have presented in too vivid colours; I have endeavoured to confine myself within the limits of moderation based upon those matters which are with me the subject of daily observation, and have been so for nearly thirty-five years. That you as medical men undertake those legal responsibilities which I have outlined is clear, and that you are required to discharge them towards your patients and the State within the limits and to the extent I have shown is equally clear.

It remains for me to give you some guiding light as to protecting yourselves from those legal risks which I have accentuated.

I know of only one source through which this can be done efficiently and economically—namely, by securing membership of one of the defence societies immediately after you have registered. Outside this protection a man stands alone, never knowing when or in what circumstances his treatment of a case may be impeached, or the extent to which such an impeachment may be carried. The subscription to any one of these societies should be within the competence of all, and it is a species of insurance which no prudent man should neglect.

The material benefits to be secured are financially great, as a complete indemnity from any expense is to be obtained whether the action be wholly successful or otherwise. Outside this there are other benefits which flow from membership which are perhaps not sufficiently appreciated.

First and foremost is peace of mind and absence of apprehension arising from the knowledge that you are thus protected. This sense of security is extended by the further knowledge that in the event of any complaint which conveys merely a sense of dissatisfaction of treatment received, you have the society at hand to guide you as to the most prudent course of action to adopt, and you have the further knowledge that a wholesome respect is entertained by all would-be litigants as to the thorough manner in which these cases are dealt with, and which does not extend to the medical man himself and his private advisers.

An address of this nature cannot be closed without giving expression to one reflection which inevitably occurs to the mind—namely, the immense amount of work which is done gratuitously by every medical man, and the small meed of gratitude which is shown in return.

I say with confidence and without fear of contradiction that in no other walk of life is there to be found an example of equal merit than that which the medical profession has set.

Take the hospitals throughout the length and breadth of the world, with their honorary and consulting staffs giving yeoman service of their best in the alleviation and cure of disease, but nevertheless the same responsibilities attaching as pertain to general private practice. Do not disguise from yourselves the fact that the law does not afford relief from liability on the ground that the services of which complaint may be made were voluntarily given, and it is the physician or surgeon (as the case may be) who is personally responsible for the acts which he performs, and for the due and proper discharge of the duties of those who are assisting him.

The high ideals by which your profession is animated are aptly conveyed in the words of Lord Dawson of Penn: "The medical profession are actuated by singleness of purpose, and try to keep aglow the lamps of science and service to lighten the path of public welfare."

I commend these sentiments to your keeping.

British Medical Association.

PROCEEDINGS OF SECTIONS AT THE ANNUAL MEETING, NOTTINGHAM, 1926.

SECTION OF DERMATOLOGY.

H. G. ADAMSON, M.D., F.R.C.P., President.

DISCUSSION ON ECZEMA.

OPENING PAPER

BY

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I SHOULD like first to thank the Committee of this Section, and especially my old friend the President, for the honour they have done me in inviting me to open a discussion on eczema, for if we disagree on every other point I feel confident we shall be united in considering it the most important subject in the whole of dermatology.

It appears to me that in any discussion of this kind it is important to find some base from which to start upon our various paths, and if we can find as our base some definite condition which we all agree to be invariably present in eczema I think we shall help the clarity of the subsequent discussion. Now the attempt to find this base has been an object of search with me for many years, as it has been, of course, with several others. One could attempt to define eczema purely from the etiological standpoint, but this is to assume at once that it is a specific disease in the sense that tuberculosis and syphilis are diseases. Next, we may take up the clinical manifestations of eczema. These are at first sight somewhat multiform, but if we include with the clinical manifestations the appearances in microscopic sections which we can associate with those that we observe with the unaided eye or with the hand lens I believe we can find what I may call an elementary lesion which is always present, though in varying stages of development. Thirdly, we may be guided by the physiological state of the skin, taking into consideration its vasomotor stability and its reactions to various stimulants.

We thus have before us three standpoints on which to base our definition—namely, the etiological, the anatomical, and the physiological. Of these three I propose to discard the first, because if eczema is a disease of multiple causation it is obvious that cause cannot be used for defining purposes, and if it is a disease due to a single cause then we are in entire ignorance of the nature of that cause, and again we cannot make use of it for definition. This leaves us with the anatomical and physiological grounds, and with these combined I think we can construct some sort of a conception which may command a general if not a unanimous agreement.

Anatomical Considerations.

As far as my knowledge goes it is to the acute observation of Willan, as quoted by Bateman, that we owe the anatomical conception of eczema, and I believe that we shall find a reasonable unanimity on one point. This is that although some may claim that Willan's clinical characteristics are found in conditions to which they would refuse the term of eczema, all will agree that they are certainly found in eczema.

Now Willan described the essential lesion of eczema as a small vesicle of the size of a pin's head, many such vesicles being crowded together, with little or no inflammation round their bases, and unattended by fever. He stated that the disease was not contagious. Since he attributed different varieties to different causes (eczema solare from the sun; eczema impetiginoides from various chemical irritants—sugar, lime, Indian varnish, etc.; eczema rubrum from mercury and other causes), it is obvious that what he had in mind was not a disease in the sense of an etiological entity, but a *condition* varying in severity yet always founded on his primitive vesicle and called forth

be in the same category as the ductless glands. The histological appearances and staining reactions of epithelial cells closely resembled those of other glandular structures. If this could be proved it would help them to understand many of the problems of dermatology of which they were at present ignorant. If this were a fact it would be possible that the epithelium, when irritated, secreted a substance which produced a general anaphylactic state of the whole skin and thus produced a general sensitization. He had found small stimulating doses of *x* rays the most efficacious method of desensitizing the skin. Might it not be that by this method of treatment they were passing into the circulation small doses of the specific virus which produced the anaphylactic state, and in this way caused an anti-anaphylactic condition of the skin?

Dr. RUPERT HALLAM (Sheffield) thought that all would agree with Dr. Whitfield's view that an abnormal susceptibility to the action of external irritants was present in these patients, but he wondered whether Dr. Whitfield would not also be prepared to admit that an internal or endogenous irritant might sometimes replace the external irritant and cause precisely the same anatomical lesions. Did not the train of circumstances which took place in the case of the varicose ulcer with a secondary dermatitis support this view, and was not this the response of the skin to a toxin carried by the blood stream? Could it not equally well come from some lesion in, say, the alimentary canal? A very interesting case quoted by Schoenhof in 1924 seemed to support this view. The patient was occupied in preparing asparagus for cooking; a dermatitis developed, not only on contact with the vegetables, but also on ingestion of the same. Bloch was able also to produce a dermatitis in a young woman by giving iodide orally, intramuscularly, or by contact with the skin. If this view could be accepted it would help to explain the etiology of many of their cases.

As regards the individual hypersensitiveness, which might apparently be hereditary or acquired, Bloch's pupil Jaeger had performed some interesting experiments. He standardized his irritants by means of plasters containing a definite percentage of various chemical substances, such as formalin, iodoform, or primula juice. These were placed on the skin for a definite time on 1,100 individuals, among whom were 333 patients with eczema. A positive result was obtained in 35 per cent. of the eczematous and in 5.4 per cent. of the healthy. This showed that the eczematous were seven times more sensitive to these irritants than other persons. The greater proportion of positive results were obtained in chronic cases, less in occupation dermatoses and in the so-called seborrhoeic eczema.

Dr. H. W. BARBER (London) endeavoured to distinguish certain clinical types of the eruption with a view to seeing whether it was not possible to deduce the probable cause in a given case from the distribution, configuration, and type of lesion present.

First, as regards "seborrhoeic eczema" he agreed with Dr. Whitfield that seborrhoeic dermatitis was not a true eczema, but an inflammatory reaction of the eczematous type (eczematide of Darier) due to infective organisms, comparable with that produced by a ringworm fungus. But they must all admit that not uncommonly in seborrhoeic patients, particularly in hot weather, an acute true amicrobial eczematous reaction did occur—for example, on the hands and feet, producing one type of what was formerly called cheiropompholyx. This might be comparable with the third type of "seborrhoeic eczema," referred to by Dr. Whitfield as occurring on the back, which he had suggested might be due to irritation by a fatty acid, such as butyric acid, produced by bacterial decomposition of sweat. But such an eczema—at any rate when it occurred on the palms and soles—was more likely, in the speaker's opinion, to be due to the actual excretion of fatty acids by the sweat glands, as the palmar sweat was always strongly acid in these cases, although sebaceous glands were absent on the palms and soles. This type of eczema might occur in seborrhoeic subjects, apart from any active seborrhoeic dermatitis being present.

Secondly, with regard to the condition labelled "infective eczematoid dermatitis" by American authors, this, Dr. Barber thought, had been shown to be a definite entity due to epidermal sensitization to a staphylococcus, and he had confirmed Sutton's observation that in 25 per cent. of cases an urticarial eruption accompanied the eczematous dermatitis, and that positive cutaneous reactions could be obtained to staphylococcal protein.

Thirdly, the type of eczema in which Dr. Barber was at present most interested was that often termed "nummular eczema"; bilateral symmetry was characteristic of this type, the eruption occurring chiefly on the limbs. The primary lesion was often a single eczematous papule which became a vesicle of considerable size, drying up to form a single brownish scab. The nummular patches were more or less circular with sharply defined margins, and were characterized by the relatively large size of the vesicles and resulting scabs and their tendency to remain discrete. The evolution of this type of eczema made it almost certain that the toxin to which the epidermis was sensitized was borne in the blood stream either from a focus in the skin itself or from within. He mentioned three cases of this type, the source of toxin being in one a maxillary antrum, in another the teeth, and in the third apparently the gut.

Fourthly, with regard to true gouty eczema, Dr. Barber thought they were all agreed that in these days it was rare; it could be recognized clinically and distinguished from other forms of eczema. Dr. Oriel had obtained very interesting results from the investigation of the blood uric acid in various types of eczema and in seborrhoeic patients. He found that in the latter the blood uric acid was normal and the blood pressure not raised, whereas in the cases that Dr. Barber had diagnosed as gouty eczema the uric acid content of the blood was markedly increased and the blood pressure invariably high. It also appeared from Dr. Oriel's series of cases that the great majority of patients with true gouty eczema died before old age, for eczema in the aged was found to be unaccompanied by an increase in the blood uric acid or blood pressure.

Lastly, there was the type of eczema that occurred in patients who had inherited what Dr. Barber termed the ichthyosis—asthma—hay fever—prurigo—eczema—urticaria complex. They almost invariably suffered from infantile eczema, and later developed circumscribed prurigo, the sites of election of which were nearly always the antecubital fossae, the popliteal spaces, and the dorsal surfaces of the wrists. The majority were, perhaps, ichthyotics, but, apart from this, their skin was curiously sallow, thickened, and oedematous-looking, so that they could be recognized at a glance.

Dr. G. B. DOWLING (London) asked if the term "dermatitis" should be used for any of their cases rather than "eczema." He thought it would be convenient to retain the term for those cases of eczema which were due to contact with a known irritant, such as lime, sugar, and furniture polish, for the word "dermatitis" had an industrial significance which "eczema" apparently had not, so much so that when a patient was labelled "eczema" it was often difficult for that patient to obtain an award under the Workmen's Compensation Act, even when an award was justly due. Nevertheless, Dr. Whitfield had made it perfectly clear that there was no difference between such dermatitis and eczema on anatomical, histological, or indeed physiological grounds, if they accepted his view that an internal stimulus of some kind was essential to the production of all eczema. On this point, however, Dr. Dowling was in some doubt, and he was glad that Dr. Hallam and Dr. Barber had referred to cases in which it was exceedingly difficult to find any evidence of external irritation.

They were all agreed, as Dr. Whitfield had said, that a constitutional factor was present in all cases of eczema, and it was this that interested and concerned them most. The question arose whether many such factors might be considered to underlie different cases, or whether such a factor was essentially the same for all cases. All the evidence pointed to the view that multiple types of constitutional disturbance were responsible, and these might be either congenital or acquired. Other speakers had

the local inflammation was so severe that the patient refused to submit to further experiment.

It would appear to me, therefore, that there is rather more evidence in favour of the toxic theory. Further in favour of the toxic theory I will refer for one moment to cases of food poisoning. I suppose that we all recognize two forms: first, the frank urticaria, where the chief change is in the deeper part of the corium and sometimes even in the subcutaneous tissue, and a second type characterized by the presence of minute papules, generally follicular in situation, scattered thickly over the body and limbs, and not so evanescent. This second type lies mostly in the papillary body, and is succeeded by desquamation. If rubbed, as it generally is, it develops rapidly into a vesicular eczema, needing only the slightest trauma to do so. I suggest to you that this is the result of some bacterial poisoning absorbed from the intestinal canal, and is analogous to the generalization from the pyogenic varicose dermatitis referred to above. If this idea be correct, it would, of course, account for the association of eczema with focal sepsis, on which so much stress has been laid by some observers.

We may conceive, then, that there is one type of toxin which acts on the deeper vessels and nerves of the corium in such a way that the slightest rubbing or pressure determines the development of an urticarial wheal, whereas another type so affects the epidermo-papillary system that by the same kind of local stimulus an eczematous reaction is produced. If we accept this theory then I think we can explain those cases in which mental anxiety or shock seem to be active in helping to produce eczema by supposing that digestive disturbance, errors of gastro-intestinal motility and secretion, result in erroneous chemical cleavage of the food, whether bacterial or otherwise, with the production of an alimentary poison of the same type as that present in food which is decomposed before ingestion.

"Seborrhoeic Eczema."

Before concluding this somewhat sketchy survey it is, I think, necessary to refer as shortly as I can to that terrible bone of contention "seborrhoeic eczema" or "seborrhoeic dermatitis"—the idol of some and the bugbear of others.

Dealing first with the simplest form—the dry micaceous scurfy head—I believe that Sabouraud is quite right in maintaining that this is neither eczema nor seborrhoeic, but a definite infection of the superficial horny layer by the organism commonly known as the "bottle bacillus." Where I think Sabouraud was too limited in his conception is in the fact that, in my opinion, he failed to recognize a constitutional side to the question.

We are all exposed to infection with this organism, and most of us are infected, and, further, the infection in any individual varies greatly from time to time.

It is now some years since I first learned from a patient who was susceptible to "hay fever," and also had an idiosyncrasy to strawberries, that there was another factor besides the mere infection with the bottle bacillus. This patient had at most seasons of the year an only slightly scurfy head, but during the grass pollen season she always suffered, if in the country, from hay fever, and during the attack her head became intensely irritable and scurfy, microscopically showing almost purely the bottle bacillus. If she went to sea in her yacht during this season her scalp remained almost clear, but if while at sea she ate strawberries she developed the symptoms of hay fever and the scurfy head, so that it is probable that the scurf was not the result of local irritation of the scalp by the pollen.

Since this time I have collected one or two more cases of patients whose scalps become violently scurfy and irritable when they suffer from hay fever. Some of them always suffer to some extent from scurfy head, whereas in others it is not noticeable except during these exacerbations. This disease I prefer to separate entirely from eczema under the heading of "pityriasis capitis."

Sabouraud has also pointed out that as a complication supervening upon the disorganized horny layer there may ensue an infection with the non-liquefying staphylococcus which he calls the "*Coccus butyricus.*" The moment that this secondary infection occurs the histology of the disease is changed and the hitherto dry scales become mixed up with blocks of dried serum. This is the condition which is so commonly seen in the scalp from puberty onwards.

Now on the body when this double infection takes place it is associated with reddish rings, and has been given all sorts of names: "lichen circumscriptus," "seborrhoea corporis," "seborrhoeic eczema," etc. Microscopical examination shows that it is in reality a combination of a superficial scaling—to use the French term, "epidermitis"—and a low-grade but not entirely aleucocytic folliculitis. It is not, therefore, in my opinion, an eczema any more than tinea circinata is an eczema.

Lastly, there is a third form, commonly seen with a V-shaped distribution over the shoulders and upper back. The lesion here is a discrete spongy papule or abortive vesicle, which may be in places aggregated, but is not arranged to form rings or polycyclical figures. Microscopically I cannot distinguish the lesion in this case from that of simple eczema, except that the oedema is localized rather specially to the mouth of the sweat gland. I therefore believe this form to be a true eczema of chemical origin, the offending chemical being in all probability an irritating fatty acid (butyric acid?) produced by bacterial decomposition of the sweat.

Summary.

To sum up my position, then, I will put forward the following view:

Eczema is a clinical condition and not a disease with a single specific cause.

It is the result of irritation of the skin, and is associated with an undue susceptibility.

This susceptibility may be congenital or acquired. When acquired the susceptibility may be the result either of repeated external trauma or a generalized toxaemia of a particular type.

Perhaps I may be allowed, in conclusion, to quote to you some sentences from the preface of Dr. Bateman's incomparable synopsis.

"I am aware, indeed, that there are many individuals, professing themselves to be practical men, who affect a contempt for all nosological disquisitions, and deem the discussions relating to nomenclature, in particular, very idle and frivolous, or at the best, a sort of literary amusement, which is not conducive, in the smallest degree, to the improvement of the medical art. But this I conceive to be a mistaken view of the subject, originating perhaps from indolence, or from a want of habitual precision in the use of language. The inferences of slight and superficial observation may, indeed, be detailed without recourse to a very definite vocabulary; for where little discrimination is exercised very little nicety can be requisite in regard to the import of the language employed.

"But it is not by such means that the boundaries of science are extended."

GENERAL DISCUSSION.

Dr. W. DYSON (Manchester) said that eczema was a non-microbic superficial inflammation of the skin, the result of external irritation in a predisposed subject. He divided predisposing causes into two categories—congenital and acquired. They produced a sensitization of the skin, which caused it to react to an irritant which would not produce inflammation in a normal individual. What was the cause which brought about sensitization of the skin? Was it a localized anaphylaxis? In some respects it corresponded to an anaphylactic state, but, so far as was known, anaphylaxis was an absolutely specific reaction to one substance, whereas a sensitized skin would often react to any external stimulus; moreover, a localized sensitization might occur following injury to a portion of the skin, in which predisposition to eczematous outbreaks remained confined to the damaged part and was probably the result of local loss of vitality—a different phenomenon from a generalized sensitization. It was a common occurrence in occupational dermatitis to find the whole skin becoming sensitized and to see areas, untouched by the irritant, the site of a sympathetic dermatitis. Again, a dermatitis might be in the first place a skin reaction to a specific irritant, but subsequently the reaction might cease to be specific, and the skin react to any external stimulant. The speaker made the suggestion that the epithelium was a secretory organ and that at some future date it would be found in function to

their blood behaved in an abnormal manner towards sugar. The abnormality might show itself in one of three ways: (1) there might be an abnormally high starving sugar content in the blood; (2) the sugar tolerance curve, after the ingestion of a measured quantity of glucose, might reach an abnormally high point; (3) the sugar tolerance curve, although the peak might not be higher than normal, might be abnormally slow in falling to the starvation level—it might show a "lag." With the help of Miss Wills, M.D., he had been able to demonstrate that in about two-thirds of the cases of eczema investigated there was some abnormality shown on these lines. On the other hand, he had found no abnormality of the kind in a number of healthy medical students who had acted as controls, nor in three cases of exfoliative dermatitis. But up to the present he was unable to predict from the clinical characteristics which case would and which would not exhibit the abnormality. The speaker also desired to suggest that the nervous system played a more important part than was usually suspected in determining the distribution of eczematous lesions. He had never been able to explain their marked tendency to a definite symmetrical arrangement. He did not think this could be explained by supposing that a toxin was distributed by the blood stream. If that were the explanation, why should there be symmetrically arranged lesions in isolated patches only, while the rest of the surface escaped? One would expect a generalized eruption on this theory. The system which was most symmetrical in the body was the nervous system, and he suggested with some diffidence that an eczematous patch of skin on one side influenced, through its afferent nerves and their synapses in the spinal cord with the afferent nerves of the other side, the symmetrically corresponding patch. He thought that possibly experimental work might be devised to test this hypothesis.

Sir Norman Walker said it was thirty-four years since he first attended an Annual Meeting of the British Medical Association, and it was at Nottingham. He thought that Dr. Whitfield, in his definition of eczema, laid rather much stress on external irritants, yet the speaker believed that it was possible to arrive at a definition of eczema which would be generally accepted. The Dermatological Section had discussed eczema in Newcastle about thirty years ago. Allan Jamieson was in the chair, and Crocker, Colcott-Fox, Brooke, Malcolm Morris, Pringle, and Limont were present; Sir Norman Walker believed he was almost the only survivor. Then the younger generation was fighting for recognition of the very existence of external causation, and a great deal was heard about gouty eczema. That day, they had been told that it hardly existed. He did not imagine that those who strove so hard for external recognition really believed that internal influences could be ignored; but he thought they were right, in their generation, to stress the external side. Now that field had been won, and, while some had travelled further than others, nobody now denied that a very large number of all cases of so-called eczema were due to external causes. In some respects the pendulum seemed to have swung the other way, and there were those who, leading fresh advances, were concentrating on causes other than external. He was convinced that focal sepsis and internal causes, particularly substances taken into the stomach, were responsible for many cases which, for the purpose of the discussion, he was willing to call eczema. Dr. Dowling had suggested that the word "dermatitis" should be limited to such inflammations as were demonstrably due to external causes, and that the rest should be called eczema. Through his teaching career the speaker had endeavoured to direct the attention of students to the causes of disease rather than to the names attached to them, and so he believed that dermatitis, which was an admission of ignorance, was the better term until it was possible to put an adjective at the end of it. Dr. Dyson had referred to small, stimulant doses of *x* rays; Sir Norman Walker reiterated his warnings against the haphazard use of this powerful and dangerous weapon. He had seen so much serious damage, so many fatal cases, that it was only when he could convince himself that no other treatment would do as much good as *x* rays in a particular case, that he administered them. It might be that the evil effects did not appear until years after exposure. He agreed with Dr. Haldin-Davis that they must make more use of biochemical and other laboratory methods. Advancing science was bringing to their aid other means of investigation, and the training of the dermatologists of the rising generation must be longer and broader than that of their predecessors. He was himself making use of the cutaneous tests.

The President felt that it was first of all essential to come to an agreement as to the characteristic clinical features of the eruption for which the title of "eczema" should be retained. While they discussed the etiology of eczema they ought first to be sure that they were referring to the same complaint. One observer might maintain that a dermatitis which he called eczema was the result of internal causes, another that eczema was of external origin; but if they used the word "dermatitis," or even the word "eczema," in a vague sort of way it might well be that the two observers were dealing with different eruptions, and that both were right. If they employed the term "eczema" as a sort of refuge for those forms of dermatitis which did not belong to a definite category such as that of impetigo, of psoriasis, of urticaria, or other eruption with clearly recognized characters, they were possibly dealing with several eruptions of different nature and origin. Even if they said that to be an eczema an eruption must be a dermatitis with redness and vesication or weeping and itching, they were still too vague. It was not many years since a common eruption with all these characters was confidently regarded as an eczema of gouty origin, but now, as was first shown by Dr. Whitfield, it was known to be of external microbic origin, and was labelled eczematoid ringworm of the extremities. He was quite in agreement with Dr. Whitfield that unless they restricted the meaning of the term "eczema" to one decided type of inflammatory reaction they were not likely to come to any clear conclusion as to its etiology.

Dr. Whitfield had taken as his base the essential lesion of eczema as defined by Willan—namely, the crowded, pin-head sized, deeply formed vesicle—and he had very rightly emphasized the fact that this was a vesicle formed, not on the surface of the skin, but in the deeper parts of the epidermis—that it was, indeed, what they now called an intradermic vesicle. The President would add to this statement that these crowded pin-head sized intradermic vesicles were set upon a red and oedematous base. It might be that in the very earliest phase the minute vesicles were not accompanied by any obvious inflammation at their base, but this phase soon passed, and in the matured patch of eczema they saw a roughly circumscribed area of red swollen skin studded with minute vesicles or with weeping points. This swelling of the epidermis was particularly obvious when they pinched up the patch between the fingers, for it was then found to be twice or three times the thickness of the normal skin around. In Bateman's *Delineations of Cutaneous Diseases according to Willan* (1817) there was a coloured drawing, Plate LV, Fig. 2, "Eczema Impetiginoides," in which this condition was exactly described. The President regarded, then, the essential lesion of eczema as a roughly circumscribed patch, red and swollen, and studded with minute vesicles or weeping points, and accompanied by itching and burning. For many years past he had been accustomed to refuse the name "eczema" to any lesion which did not present these characters. The eruptions called dermatitis traumatica or dermatitis venenata, which were frankly the result of contact with certain local irritants, such as primula and hair-dye, did not present these characters. Such a dermatitis presented an area of very closely set, quite superficially formed larger vesicles, which might even run together into bullae; or there might be an erythema without deep oedema, and with a tendency to superficial vesication or blistering. The lesion he considered to be the essential lesion of eczema was seen in its most characteristic form in the facial eczema of infants and in patchy eczema of the arms and legs and hands of adults.

He had never been able to satisfy himself that there was any inherited or acquired susceptibility of a gastro-

drawn attention to the congenital factors which were said to create an eczematous diathesis. Of the acquired types of constitutional disturbance Dr. Dowling could think of no better example than that mentioned by Dr. Whitfield in relation to chronic varicose eczema. Dr. Dowling was convinced that this type of case was so common that in examining any case of eczema, even when the exciting factors would appear to be exposure to a definite irritant, he had made it his practice to search the whole surface for a chronic focus on the skin. He thought that such cases were etiologically of the same nature as the type of case to which Engman drew attention in 1902, and to which he gave the name of "infective eczematoid dermatitis." He then demonstrated the close relation of many cases of eczema to an antecedent pus infection, such as infected scabies, infected wounds, boils, abscesses, discharging sinuses, chronic discharging ears, and a host of other septic foci in direct relation to the skin. Generally the area of skin in the immediate neighbourhood of the septic focus was primarily the seat of eczematous vesicle formation. The eczematous eruption did not, however, remain confined to the original focus, but spread either by continuity or to distant foci on the skin, often selecting exposed parts, and usually not sparing the large flexures where friction and moisture might afford an external stimulus. The eruption was auto-inoculable, as Sutton and Fordyce had pointed out, but often the spread to distant foci was too sudden and too rapid to be accounted for in this way.

The rapidly produced general eruptions were of the most diverse types, being sometimes of papulo-vesicular type, as Dr. Whitfield had described in relation to varicose eczema, sometimes a patchy erythemato-squamous eruption, and Dr. Dowling had seen an urticarial eruption in combination with eczema of this origin. To the same group belonged those common and difficult cases of infective dermatitis of the scalp in children, following an antecedent pus infection from pediculosis capitis, spreading at times by continuity to the post-auricular sulci, the face and neck, and giving rise sometimes to patches of true eczema in distant parts. Apart from cases of eczema due to contact with a known irritant, and which, for convenience, Dr. Dowling preferred to call dermatitis, he believed that these cases supervening upon antecedent foci in the skin formed a majority of the cases of eczema with which they had to deal, and he agreed with Dr. Whitfield that it was all-important to attack the primary focus in treatment. In the present state of their knowledge it was impossible to say to what factor in the primary infective lesion the secondary reaction was due. Presumably some toxic substance was absorbed from the focus into the circulation, which had a directly poisonous action upon the skin, rendering it susceptible to the minutest stimuli from without; but they did not know whether the toxin was of bacterial origin or the result of tissue autolysis. He mentioned a case which supported the view that such toxins were not necessarily bacterial; it was a case of lupus vulgaris in a healthy butcher, no doubt of inoculated type. Dr. Dowling had used pyotropin for treatment, a preparation that acted by producing selective destruction of lupous tissue with marked suppuration. After three applications the butcher developed a crop of eczematous vesicles immediately around the patch of treated lupus, upon skin that had been bathed in pus for about a fortnight. Although pyotropin was discontinued, a week later there appeared an extensive patchy erythemato-squamous eruption over the trunk, limbs, face, neck, and scalp. It seemed that bacterial toxins could not have been responsible for the general eruption in this case, since the suppuration produced was of chemical origin and not due to infective organisms. Although in this case the primary focus of eczema healed quickly under local treatment, the general eruption persisted for about two months. The important point to decide was whether there existed, apart from the alimentary causes of which Dr. Whitfield had spoken, internal foci capable of sensitizing the skin with the production of eczema, in relation to which Dr. Barber's remarks on his cases of nummular eczema were particularly interesting.

Dr. Dowling agreed with Dr. Whitfield that Sabouraud was right in saying that pityriasis of the scalp had nothing to do with seborrhoea, although it must be admitted that pityriasis and seborrhoea were commonly associated; they arose from a common soil. In relation to pityriasis of the scalp or dandruff, however, a certain common type of true eczema did arise, as Dr. Barber had said, apart altogether from the whole group of eczematides, commonly called seborrhoeic dermatitis. Dr. Dowling's view of seborrhoeic eczema was that pityriasis of the scalp was a mild chronic infection due to the bottle bacillus. It was slightly irritable, and at times, from friction or some more obscure cause, it assumed an inflammatory aspect due to superadded staphylococcic infection. The picture was then the common dry seborrhoeic dermatitis, or it might be an acute weeping dermatitis of the whole scalp. In either case, apart from a tendency to spread to the post-auricular sulci, the neck and face, true eczema might develop in distant parts of the body. The speaker believed that an important group of infantile eczema belonged to this class. In his opinion these cases fell into line etiologically with the cases related to chronic varicose dermatitis, and with the cases of infectious eczematoid dermatitis of which he had spoken, the primary sensitizing focus in the skin being in this case the scalp, as in children suffering from pyogenic dermatitis due to pediculosis capitis. The important point to elucidate was what gave rise primarily to the acute inflammatory condition of the scalp, for all had dandruff, though few, fortunately, had seborrhoeic dermatitis. There must be another factor in this connexion.

Dr. Semon (London) said that the known facts governing the etiology of eczema sadly needed revision and tabulation. In his view they were all contributory or associated rather than causal. He agreed with Dr. Whitfield that eczema was a condition rather than a disease—a condition which, in his experience, might be lighted up by such heterogeneous associations as glycosuria, hypochlorhydria, focal sepsis in teeth, tonsils, or appendicitis, old gunshot wounds, varicose ulcers, or the repeated and daily stimulus of chemicals as used in trade, if the subject were susceptible. The number of such possible stimuli was unlimited and ranged from simple trauma to a complex sensitivity to foreign proteins. In the case of each and all of them it seemed certain that an essential and hitherto undefined state of the skin itself must be presumed. An American author had suggested the term "tissue idiosyncrasy," which would suit as well as any other at the present time. Some slight hint as to the mechanism involved in the production of eczema was suggested by the fact that eczema never occurred on a naevus, no matter what its size or location—and all naevi lacked vaso-constrictor and dilator nerves. It might be, then, that for the exudation of eczema to take place there must be a local neuro-vascular abnormality at work.

Dr. Haldin-Davis (London) approved the definition put forward by the opener of the discussion. He did not minimize the importance of the external factor in the causation of eczema, to which all dermatologists ascribed increasing importance, but there remained a large number of cases in which this factor was almost inappreciable. In his opinion more research was necessary on biochemical lines in order to discover the underlying biochemical basis of the constitutional factor. At one time he had had the idea that certain dermatoses might be correlated with one or other of the four well known blood groups characterized by their agglutinating relations; but the investigations he had made on these lines had yielded no definite result. The whole problem was exceedingly difficult, because, up to the present, their chemical methods were much too coarse to detect the minute differences between the tissue fluids of eczematous and non-eczematous individuals. He did, however, think that there was one line of investigation which might be worth while following up. Starting from the traditional idea that sugar was bad for eczema, and from the undoubted fact that diabetic subjects were unduly liable to that condition, he had examined a number of cases of eczema with a view to ascertaining whether or not

With the help of my clinical assistant Dr. Elizabeth Hunt, a series of observations has been carried out in my out-patient department, and I should like to take this opportunity of acknowledging my great indebtedness to Dr. Hunt for her invaluable co-operation. Unfortunately, as all our patients were out-patients, we were compelled to limit our investigations to the effect of remedies not likely to produce a profound degree of shock. But there were other agents available.

In the reports of other investigators one finds that all too often vigorous local treatment of recognized efficacy has been carried out simultaneously with injection treatment of all kinds. This introduces a disturbing factor and makes it extremely difficult to assess accurately the value of the "foreign protein" or other injections. To eliminate as far as possible this source of fallacy we were careful to confine local medication to a mere dermatological placebo—a weak boric ointment—until at least five or six injections had been administered.

Auto-haemotherapy.—Ten patients were treated by auto-haemotherapy. This is a method of treatment of recognized value in some of the pruriginous dermatoses, but it would seem to be of no use in psoriasis. The patients received from four to eight injections, at intervals of four days or a week, of 5 c.cm. of their own blood drawn from a vein and injected straightway into the buttock. In no case was there any appreciable improvement. This method does not seem able either to shorten the period of evolution, to influence beneficially the quiescent stage, or to hasten the process of involution or retrogression. Nor does it seem, as has been suggested by some observers, so to act upon the patients as to render them particularly amenable to whatever local treatment might subsequently be applied.

Injection of Vaccines.

It is beginning to be recognized in "foreign protein therapy," vaccine therapy, and all treatments of the kind, that it is the manner in which the tissues of the patient react, rather than the particular substance injected, which gives the result. There is no recognized relationship between *Bacillus typhosus* and psoriasis. But Engman and McGarry,[1] injecting intravenously doses of vaccine containing 100 to 500 million of typhoid bacilli, brought about a rapid disappearance of the lesions of psoriasis. But relapses were speedy. The results must be attributed to the response of the bodily economy to the violent shake-up produced by the vaccine, rather than to any direct and specific action of the organismal content of the injections on the lesions of the disease.

Similar observations have been made by Scully and Cadbury, while Sutton[2] claims good results from the use of an autogenous colon bacillus vaccine. But Sutton combined with his vaccine therapy active treatment with chrysarobin.

I have not tried typhoid vaccine for psoriasis, but I have used a mixed polyvalent staphylococcic vaccine, in doses of 50 to 100 million hypodermically, in several cases without any appreciable result. In addition Dr. Hunt and I have made a careful trial of a polyvalent mixed vaccine, prepared by Danysz's method from the intestinal flora. We have treated patients with such a vaccine made from their own bowel cultures, and, in addition, we have used a mixed stock entero-vaccine which contained in each cubic centimetre 20 million colon bacilli, 20 million enterococci, besides staphylococci and diplococci of different kinds.

Sixteen cases were treated with this entero-vaccine. Beginning with small doses of 0.2 c.cm., the injections were repeated at intervals of four days or a week in increasing dosage until 1 c.cm. was reached. No single dose was larger than 1 c.cm. In all, the patients received from three to ten injections. Local reactions were slight. Systemic reactions occurred occasionally, usually taking the form of diarrhoea. Occasionally there was a subjective focal reaction, the lesions itching intensely. This subjective symptom we may, I think, interpret as the evidence of a focal reaction not gross enough to produce visible changes in the lesions. In three of the patients there was a marked indicanuria at the beginning of the treatment, and it is noteworthy, as Dr. Hunt pointed out, that those patients who had indicanuria derived most benefit from the injections.

Reviewing the records of the sixteen cases, we find that in four cases there was a noticeable improvement. In six cases there was no definite improvement. In five cases the patients attended so irregularly that the treatment did not have a chance; and in one case, after ten injections, there was a slight, but definite change for the better. In no case did entero-vaccines alone produce a complete disappearance of the lesions. Their place would, therefore, seem to be, if they are to be conceded a place at all, that of an aid to other treatment, rather than a complete treatment in themselves.

Man in his puny way tinkers at things. When Nature takes a hand in effecting a cure she can act dramatically and with vigour.

In 1922 a nurse, aged 23, who had suffered from intermittent outbreaks of psoriasis from the age of 11, but who had been free for nine months, consulted me about an eruption which had broken out on her wrists and the flexor aspects of her forearms. The lesions were tiny, red, pin-head papules which itched intensely, and which looked like the papules of lichen planus. There were on the first occasion when I saw her no lesions on the "sites of election" of psoriasis. Almost with the rapidity of one of the infectious exanthemata the eruption broke out on the trunk and limbs, the lesions closely resembling in shape and character those on the wrists and forearms. There was a slight rise of temperature during the onset, but it did not exceed 99.5° F. Soon the older lesions on grattage yielded the characteristic signs of psoriasis and over the prepatellar regions and at the back of the elbows there was a characteristic grouping of lesions which quickly became confluent. The patient felt out of sorts, and the intense itching disturbed her sleep. She was put to bed, freely purged, kept on a milk diet, and given 5 minim doses of antimonial wine thrice daily, with calamine lotion as a local application. A week after the appearance of the lesions she complained of a dull ache in the left armpit. On examination there was a deep-seated tenderness and some infiltration. She was developing an axillary abscess. As the abscess grew the eruption on her skin began to pale, the intense itching diminished, fresh lesions ceased to appear, and except for the pain of the ripening abscess the patient's condition was much more comfortable. Recognizing in this concomitant septic infection a useful ally, I was in no hurry to open the abscess prematurely. I waited until it had penetrated almost to the surface, and on the twelfth day from the date when she had first complained of pain in the axilla I opened it by Hilton's method. By this date—that is, nineteen days from its first appearance—the eruption had almost completely disappeared, and on the twenty-third day after the first outbreak—that is, four days after the opening of the abscess—the last skin lesion had disappeared. It had been a fulminating outbreak, controlled, subdued, and conquered by a coincident septic process. The patient did not have an outbreak again for close on fifteen months.

With this case I have always associated the boast of an old general practitioner who twenty-five years ago told me that he could cause an outbreak of psoriasis to disappear by rubbing undiluted tar ointment into the hairy parts of the legs or thighs until he set up a violent folliculitis. The cure seems almost worse than the disease, but that shrewd old practitioner had made an observation that is quite in the line of some of our modern practice.

Treatment by "Fixation Abscesses."

In a mild way I have tried to imitate Nature; but a "fixation abscess," such as was commonly produced by our forefathers in the treatment of pneumonia, puerperal fever, and deep-seated inflammations, is a poor substitute for a violent infection such as the nurse developed. For the purpose of producing "fixation abscesses" I have made use of the preparation known as terpichin. It contains a very pure turpentine, free from rosins and oxides, and in addition a small proportion of quinine, which is said to increase its efficacy, and a local anaesthetic. The dose is 1 c.cm., administered weekly or twice a week. The injections are practically painless. Introduced into the gluteal muscles, terpichin is said to produce small necrotic areas—sterile abscesses.

Fourteen patients were treated with these injections. Seven showed distinct improvement within a few days of their first injection. One of these patients was a woman who previously had had a course of six injections of her own blood, and also a course of injections of intramine, without much, if any, apparent benefit. The improvement noticed in these seven cases after the first injection was

intestinal toxaemic nature which rendered eczematous patients more sensitive to external irritants. He was inclined to believe that eczema was a normal reaction in normal persons to small repeated external irritations. A combination of local circumstances had, he thought, more to do with the first onset of an eczema than any predisposing supersensitiveness due to internal causes. A small irritant, and particularly some form of chemical irritant, combined with heat from warm clothing, or from warm weather or sun exposure, with friction from the clothes or from scratching, led to the first patch of eczema, with subsequent spread to other parts from irritation of the discharges, or possibly from absorption of toxins from the original patch.

A true eczema might arise also as a sequel to a more violent dermatitis, such as dermatitis traumatica. If the special irritant which had given rise to the dermatitis traumatica was removed the dermatitis speedily disappeared, and did not become an eczema. But if the contact with the irritant was continued the type of reaction might alter and the dermatitis be converted into a true eczema. Thus they might sometimes find a true eczema taking its origin from what was primarily a dermatitis due to some special irritant, such as a hair-dye or a dyed fur collar; or an occupation dermatitis might be converted by repeated irritation into an occupation eczema. In all cases of eczema he believed that if they diligently traced back the history of the eruption they would generally find that the earliest onset was associated with some such combination of local irritation with other conditions such as he had mentioned. Dr. Whitfield's apt quotation from Bateman, with which he had concluded his address, was very appropriate to the subject of eczema, and if at this meeting they had done nothing more than define exactly what was meant by eczema, he thought that they had accomplished very much.

Dr. WHITFIELD replied, dealing with the points raised by various speakers.

DISCUSSION ON TREATMENT OF PSORIASIS.

OPENING PAPERS.

I.—ROBERT W. MACKENNA, M.A., M.D.,

Honorary Dermatologist, Liverpool Royal Infirmary; Lecturer in Dermatology at Liverpool Infirmary.

THOUGH psoriasis is one of the oldest and commonest diseases of the skin, we do not yet know how to eradicate it. We may know how to treat it, and in most cases we may venture to promise a sufferer that his eruption can be made to disappear; but we cannot, with any degree of confidence, assure him that his first attack will be his last. Indeed, if we do not allow a groundless optimism to nullify experience we are bound to warn him that, in all likelihood, he will be the victim of recurring attacks for the rest of his days.

We are in the dark as to the cause of the disease; therein lies our chief difficulty, for we are aiming at a target which we cannot see, and until the etiology of psoriasis has been established beyond cavil much of our treatment must be empirical.

I take it that my duty in opening this discussion is not so much to indicate some stereotyped method for the treatment of the disease as to touch upon some points that may stimulate controversy. I do not, therefore, propose to waste your time by passing under review the numerous remedies that may be employed to cleanse the skin of the eruption. I intend to speak only of those agents or methods of treatment of which I have made careful trial, and I shall give a brief account of some clinical experiments in therapeutics entered upon in the hope that they might yield fruitful results. This will, I imagine, afford ample ground for discussion; and as subsequent speakers will probably contribute something from their own experience we shall, I trust, have a profitable exchange of ideas and learn in what measure the prognosis in psoriasis has been altered by the application to its treatment of some of those modern methods that have yielded good results in the treatment of other dermatological conditions.

May I begin with a simple statement about which there can be no diversity of opinion? Our treatment must be modified according to the stage of the disease and the character of the eruption.

Probably we have all seen the disastrous results that may follow the injudicious use of a powerful remedy like chrysarobin in a case of acute psoriasis. In its stage of evolution psoriasis must be treated with soothing remedies. If the eruption is coming out with great rapidity, in small punctate lesions, associated with subjective symptoms of heat, itching, and a sense of tenseness of the skin, the patient should be put to bed, the bowels should be kept freely opened, the diet should be light and non-irritating. In such a case all that is required for local treatment is an oily calamine lotion to which a small proportion of ichthyol may be added. This will afford great relief, and if at the same time antimonial wine, a remedy that is all too often forgotten, is administered in doses of 7 to 10 minims three times a day, the acute stage soon passes into the quiescent stage, when more active remedies may be safely employed.

Negative results have their value, more particularly when they do not accord with the more optimistic results of others. So I shall begin by mentioning some failures.

Emetine Injections.—Shortly after the termination of the war I heard that emetine had been used with some success in the treatment of psoriasis among our soldiers in the Near East. I made a trial of it at once, administering it hypodermically in doses of 1/8 grain of emetine hydrochloride, progressively increased to 1 grain daily, given in two doses of half a grain each. During the treatment the use of all other remedies was discontinued. In all, each patient received from 7 to 10 grains of the salt. Eight patients were treated; all were in the quiescent stage. The results were disappointing. I was not able to satisfy myself that a single one of them derived the slightest benefit from the treatment.

Arsenic and Salvarsan.—Arsenic has long been reputed to have beneficial effects in psoriasis. But I believe our forefathers greatly overrated its efficacy. It is unsuitable in the acute or subacute stage. It is, I think, most useful in the first attack of the disease, when the process of involution or retrogression has already commenced, and then it has to be pushed to the limits of tolerance before its effects become appreciable. But it was natural that on the introduction of salvarsan and neosalvarsan, which presented us with the opportunity of administering an arsenical salt in massive doses, one should seek to test their efficacy in the treatment of psoriasis. My experience with these arsenical preparations has been disappointing. Salvarsan, whether administered intramuscularly or intravenously, does not have any marked or predicable effect on a psoriasis eruption. At the best the effect is uncertain. I have never seen its administration cause the eruption to disappear. Any improvement has been transient, and I am convinced that in two cases salvarsan, administered intravenously, made the eruption more rebellious to the local treatment which was subsequently applied. These are negative results which, possibly, may not fit in with your experience.

We know how psoriasis reacts to the impact upon it of some systemic infection, such as scarlatina or measles. We are aware that its lesions almost always disappear during pregnancy, to reappear during lactation. We know how a change of climate or locality may influence it and how its outbreaks are characterized by a seasonal periodicity. All these facts would seem to point to the conclusion that psoriasis can be influenced beneficially by various disturbances in systemic equilibrium. It is natural, therefore, that we should seek some solution of the problem by endeavouring so to disturb artificially this systemic equilibrium as to cause the eruption to disappear. The "shock" of "foreign protein" injections would, *a priori*, seem to afford us a possible means of achieving this end. Of recent years the literature has contained sundry reports of results following the use of peptone injections—milk injections, homologous and heterogeneous serum injections, etc. These results have varied greatly and a judicial review of them leaves a vague sense of uncertainty in the mind.

and soothes inflammation. The ointment is tenacious and adhesive, and requires fairly heavy massage to rub it in. This in itself is an advantage, because massage promotes the lymph flow in the skin and consequently tends to drain the papillae which in psoriasis are always somewhat oedematous. But we must not forget this—our treatment of psoriasis to a very large extent consists simply in removing the visible lesions. The dyskeratosis, which exhibits itself to the naked eye in the reddened plaques covered with micaceous scales, is a mere external expression of some deep-seated pathological change. Of the true nature of this deeper-seated process we know nothing. The microscope reveals histological changes—it leaves us groping for the cause behind them; and we shall continue to grope until the physiologists and the biochemists can tell us a little more about the intimate processes of cell metabolism, and the response of the individual cell in the skin to stimuli from without or within.

As yet we have no remedy that can cure psoriasis; nor, with the exception of chrysarobin and possibly tar, any agents that can cause the eruption to disappear with precision and promptitude. Nor can we prevent the recurrence of the eruption. Indeed, we may say of psoriasis what Horace long ago said of Nature:

Naturam expellas furca, tamen usque recurret.

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II.—E. F. SKINNER, M.B., F.R.C.P.,

Physician in Charge of the Skin Department, Royal Hospital, Sheffield.

PSORIASIS is one of the oldest known diseases of the skin, and yet in spite of innumerable observations its secret still eludes us. It is, moreover, one of the most striking of the dermatoses, and its frequency and saliency render its mystery all the more remarkable.

In a discussion last year I stated that, in my opinion, many of the dermatoses were pattern-reactions of one kind or another, due to some underlying metabolic change, and that certain skins reacted to changes in cell metabolism with a production of a definite pattern rash—that is to say, an individual whose skin tissues are in any way interfered with biochemically will always tend to show reaction in the skin according to a certain pattern. Psoriasis, I think, pre-eminently illustrates this, since attacks of the disease may be precipitated by the most varying of causes. For instance, I have seen in one patient a severe attack of psoriasis follow a definite trauma to the skin of the leg, an attack which lasted some six months; it cleared up completely, only to be followed about twelve months later by a second attack, which was precipitated by severe mental shock—the patient, a lady, awoke to find herself in bed surrounded by flames, the bedroom having caught fire. It appears to me that the secret of psoriasis lies in some intimate biochemical change in the cells of the growing skin, and until many more chapters have been written on the subject of the cell colloids our understanding of various rashes which constitute the dermatoses must remain incomplete. Any treatment, therefore, of one of these rashes must be entirely empirical and dependent on past experience, and in approaching the discussion of psoriasis it may be useful to take one or two well recognized therapeutic measures and compare them in detail rather than to refer to several methods, many of which are of recent origin.

Chrysarobin and *x* rays have now taken their place as reliable allies, and the method of comparison has been as follows. I chose a certain number of cases of psoriasis as nearly as possible in the same state and of the same type, submitting one group to the routine chrysarobin treatment and the other group to *x* rays. The dose of this was one-third of a pastille dose over any single area; many areas were treated at one sitting, the intervals between them being seven days. Both groups were kept under the same conditions of environment, rest, diet, etc., and no internal remedies of any kind were employed. Photographs were taken before, during, and after the completion of the course of treatment, and biopsies were made in all cases from the same area of the body (front of the thigh) to ensure a comparable skin architecture.

In my opinion chrysarobin gives the most satisfactory results; its effects are more quickly produced and last much longer, and I am quite sure that anyone who cares to master the few rules of chrysarobin treatment can confidently attack any case of psoriasis with a fair hope of success.

[Dr. Skinner here showed a number of slides illustrating the results of his treatment.]

I think it will be found that a very widespread chronic eruption of psoriasis can be removed entirely within the space of three or four weeks by the careful use of chrysarobin; and further, that a similar result is obtainable with *x* rays, though it requires a much longer time. The interval of freedom in the latter cases would seem to be much shorter.

I would now like to present to you my conception of the manner in which these two therapeutic agents exert their influence, deduced from the histological appearances of the skin during the various stages of the treatment. Deductions from histological appearances are open to the objection that such changes are poor indications of the nature of intimate biochemical processes; but the ruins of a house will give some indication as to the nature of the destructive agent and in what direction its forces have been exerted, and similar deductions can, I think, be made from a study of sections of skin.

I am of opinion that the vital change in psoriasis is one which occurs in the epidermis, and is represented by a rapid and irregular growth of the prickle-cell layer showing itself by an invasion of the derma. It is difficult to look at the irregular finger-like processes of the Malpighian layer without being driven to the conclusion that these cells are actively invading the derma. This may be the result of a varying resistance in the subpapillary layer of the skin, the interdigital areas representing peaks of greater resistance. It may be suggested that this hypothetical resistance results from the varying vascular conditions obtaining in the papillary layer, and may be due to differences in oxygen tension in different parts of the vascular bed in this situation. But whatever the explanation there can be little doubt of the altered vascularity, since the dilatation of the venous channels in the papillae is easily seen. This engorgement causes exudation of serum and a few leucocytes, giving rise to the spongiosis of the epidermis and the so-called "miliary abscesses" in the upper layers of this structure.

The histological changes are very definite, and it seems to me that they must bear some relation to the marked change taking place in the clinical condition. Although I have examined only a few cases for the purpose of this discussion from this point of view, I cannot help thinking that a possible explanation of the action of chrysarobin other than the usual unsatisfactory one of a germicide may be adduced. It has been shown many years ago by Stricker, and more lately by McDowell and Hemmingway, that the abstraction of oxygen brings about constriction of capillaries. Chrysarobin is admittedly a very powerful reducing agent, so that it appears reasonable to consider the action of chrysarobin as one of abstraction of oxygen from the capillary loops, whither it is easily conveyed by inunction, bringing about an immediate constriction in the previously dilated channels. Such constriction will have as a result an increase in the vascular resistance throughout the rest of the derma, with a consequent resultant inflammatory exudate both of cells and serum. This will in consequence raise the intradermal tissue pressure and the invasion of the epidermal line will be straightened out. Not only is this line straightened out but the pressure is increased beyond the normal and the epidermis is actually driven back. I would venture to suggest, then, that the essential change in psoriasis is brought about by a lessening in the intradermal pressure and seems to be associated with an altered oxygen tension in the capillary venules.

maintained and increased by each subsequent injection. Two patients showed slight improvement after two injections. Two patients ceased attending after the first injection, and one after the second injection. Two showed no improvement after four injections. In no case did terpichin unaided bring about the disappearance of the eruption, but in a majority of cases—in nine out of fourteen—it exerted a beneficial effect. Its use certainly helps any local treatment that may be employed. It can quieten down the period of evolution, shorten the quiescent period, and promote the rapidity with which the lesions disappear.

For many years I have been persuaded by clinical observation that the administration of sulphur in some assimilable form exercises a curative effect upon psoriasis in all its stages. For the past eight or nine years I have given colloidal sulphur in doses of 1 to 2 drachms thrice daily to patients suffering from psoriasis, and in many cases it has been of indubitable value. But its use has always been combined with some local application of known efficiency.

Injections of Intramine.—In my search for a sulphur derivative that could be administered intramuscularly, my choice fell upon di-ortho-amino-thio-benzine, better known, perhaps, as intramine. I had had experience of its usefulness in cases of seborrhoeic dermatitis, so I decided to try it for psoriasis. Fifteen cases have been treated with intramine. The dosage given was 0.75 c.cm. to 1.5 c.cm. once weekly. Two of the patients gave a positive Wassermann reaction; they showed a definite and rapid improvement. Six others began to improve slowly—that is, after the third or fourth injection—and in six no appreciable change was visible, while one woman stated categorically that the injections made her worse. In no case did intramine alone cause a complete disappearance of the lesions. In every case in which it was administered during the evolution of the eruption it hastened the onset of the quiescent stage, and when local treatment was superadded the lesions cleared up fairly rapidly, even in cases where the administration of the injections had produced little, if any, visible effect.

X Rays and Ultra-Violet Light.—Brief mention may be made of *x*-ray and photo-therapy. In the *x* rays we have a powerful remedy that may be relied upon to cause the disappearance of any patch of psoriasis subjected to their influence. The drawback is that general irradiation with *x* rays is impracticable; and, further, the treatment is not one that can be repeated with impunity whenever an attack occurs. But in the *x* rays we have a means whereby we can quickly, safely, and cleanly cause the disappearance of psoriasis lesions from such limited exposed areas as the face, the neck, and the hands. Three-quarters of a pastille dose, repeated if need be at the end of a fortnight, will usually suffice to cause any but the most obstinate psoriatic lesion to disappear. The reaction is, however, an entirely local one, and affects only the lesions irradiated. There is no reaction either in remote lesions or in adjacent lesions which have been protected from the rays. But a caution must be entered. When the skin is actively throwing out psoriasis lesions—when a mere scratch mark upon it will be followed by a trail of psoriasis papules, the unaffected skin is in an extremely sensitive state, and may react violently to radiations which at other times would produce no disturbance. Therefore, the normal skin between the lesions should be guarded; and, if possible, *x*-ray treatment should not be given during the acute stage.

Generalized irradiation with the *x* rays is impracticable; but general irradiation with the ultra-violet rays is not only a practical but extremely efficient, rapid, and cleanly method of treating the disease. My experience is that it is useful in all stages of the disease, though in the acute stage it is best to proceed cautiously until one sees how the disease reacts. I have used an air-cooled mercury vapour lamp, and so far I have not encountered a case in which there has not been a prompt and gratifying response to the treatment. One patient in particular deserves mention.

A woman, aged 52, had been a sufferer for twenty-seven years from the most rebellious form of psoriasis I have ever had the misfortune to meet. The only remedy that seemed to have the least effect on her eruption was chrysarobin—but she had been so disappointed with the fact that though chrysarobin caused her eruption to disappear it had no effect in delaying its return that she refused to use it. Six generalized erythema doses of ultra-violet light at intervals of a week or ten days caused her eruption to melt down from thickened scaly plaques to little more than pigmented areas with scaly borders, and from my experience in other cases I am hopeful that there will be a complete disappearance of her eruption.

According to Jesionek ultra-violet rays exert their greatest influence upon the basal cell layer of the epidermis, and as it is in the basal cell layer that the keratoplastic changes begin we have in the ultra-violet rays a means of reaching with a fair degree of accuracy the layer in which the pathological changes take origin.

Having touched on several matters that may promote discussion I should like in conclusion to say a word or two on the more orthodox lines of treating psoriasis.

Other Methods of Treatment.

First, as to diet. I have kept patients on a purely rice diet till they rebelled vigorously—and their psoriasis remained unchanged. There is, in my exeperience, no special merit in a purely fruit and vegetable diet in psoriasis; and a purely meat diet, though it is said to have worked wonders in the classic case of Dr. Passavant of Frankfort, has failed in other cases. I believe that what comes out of the bowel is more important than what goes into the mouth. Schwartz[3] found that 20 per cent. of patients with psoriasis gave evidence of protein putrefaction in the bowel, and 26.6 per cent. of carbohydrate fermentation. Therefore, keep the bowels freely opened, and, if need be, use high irrigation. A golden rule is to cut down excess both of carbohydrates and of proteins, for in this age everyone tends to eat too much. An ordinary mixed diet, suited to the digestive capacity of the individual patient, is all that is necessary. Tobacco should be cut down, and alcohol absolutely forbidden.

As to general hygiene, the patient should lead a quiet life, free from excesses of exertion, bodily or mental, and frequent baths, either with ordinary soap and water or medicated with sulphur or tar, may be taken.

As for internal medication, I have already mentioned arsenic, sulphur, and antimonial wine; potassium iodide is sometimes useful, and salicin is of undoubted value; it is specially useful in the acute and subacute stages of the disease, and also in the rapidly spreading varieties, as well as in cases associated with arthritis. It should be given in doses of 10 to 15 grains thrice daily, preferably in solution. Most of us, from experience, will, I think, be able to endorse Pernet's[4] opinion as to its value.

Glandular extracts I have found uncertain and disappointing.

Of local applications I need not say much. Doubtless each of you has his favourite ointment or mixture of ointments. I need do no more than mention chrysarobin. Its remarkable powers of clearing up an eruption are indisputable; the method of its use has been stereotyped by custom and experience, and any textbook will supply the details. But it has disadvantages and limitations, and in my opinion an attack of psoriasis cleared up by its use tends rapidly to recur.

Tar in one of its many forms comes next in efficacy to chrysarobin. I think the use of tar delays the return of the eruption for a longer period than the use of chrysarobin. Sulphur, salicylic acid, mercury, each has its place in the external treatment, and pyrogallic acid is specially useful for small obstinate patches.

Time will not permit of my devoting any attention to the regional treatment of the disease, and discussing special remedies for such regions as the scalp or the nails.

A cardinal principle that ought never to be forgotten is to begin with weak concentrations of remedies, and increase their strength as need arises.

I have found the following ointment extremely serviceable—namely, equal parts of tar ointment, salicylic acid ointment, dilute mercury nitrate ointment, and ointment of the glycerole of lead. The proportion of tar ointment may be lessened or increased according to the stage of the disease. There is a rational basis for this polypharmacy—for tar and mercury are powerful reducing agents, salicylic acid is keratolytic, and glycerole of lead is hygroscopic

diaphragm. The heart was still and flaccid, but after a considerable interval (about two minutes) it began to beat—very feebly at first, but gradually increasing in strength. The respiration started again soon after the heart. Warm applications were maintained on the chest wall, and I dissected away the gland. This took some time, fully half an hour, as the tumour was very adherent to surrounding structures, mesenteric vessels, etc. The patient remained quite well till the end of the operation and I had no further anxiety about him. He was discharged from hospital three weeks afterwards quite well and has remained so.

I now come to the point in Dr. Sainsbury's letter. Mr. Girling Ball injected adrenaline into the heart muscle, and Dr. Sainsbury inquires whether that was not the chief agent in the recovery of the patient, and not the heart massage.

I injected no drug into the heart muscle, or elsewhere. No doubt adrenaline may be useful by itself, or as an adjuvant, in some cases of heart failure. The prick of a needle alone may also be useful. Possibly adrenaline should always be used along with heart massage, as in Mr. Girling Ball's case, but, of either alone, I believe heart massage is the more dependable in such cases. The surgeon must make up his mind quickly as to the extreme gravity of the case, and act early, if such extraordinary measures as heart massage or injections of adrenaline are to be of any avail.

It would perhaps be unwise to make any definite statement as to lines of treatment in such cases. The cause of the heart failure may be obscure and very different in one case from another. Even research would not promise much, because obviously it would first be necessary to reproduce syncope as it occurs on the operation table and in similar circumstances, which would be difficult.

Dumfries. ROBERT M. GLOVER, M.B., F.R.C.S.Ed.

NERVE ENLARGEMENT IN LEPROSY.

THE diagnosis of advanced leprosy is not difficult, but very often by the time the disease is recognized the patient is permanently deformed and beyond the possibility of cure. The following three cases are published to lay stress on the importance of enlargement of nerves in leprosy. When a nerve is grossly enlarged it is not an uncommon experience to find that it is the only nerve affected; unless the possibility of one superficial nerve being grossly enlarged in leprosy is recognized the disease may not be diagnosed. Two out of the three cases reported were not diagnosed.

Case 1.—An Indian male complained of a swelling on the inside of the arm; it was about an inch in diameter, and was attached to the ulnar nerve, which was extremely thick, but not to the skin; fluctuation could be elicited. Along the outer side of the left hand, in the distribution of the affected ulnar nerve, was an area of depigmentation with anaesthesia. The history given was that a depigmented anaesthetic patch appeared on the outer part of the dorsum of the hand; this was followed about three months later by the appearance of the swelling described above. It had the appearance of a neuro-fibroma. On the diagnosis of leprosy being made the patient was frightened, and went to another doctor, who, being doubtful of the diagnosis, operated. On opening the supposed fibroma a semi-necrotic mass was found in connexion with the ulnar nerve, such as is typical of a nerve abscess in leprosy. There were no other signs of the disease. Unfortunately the patient disappeared, and his subsequent history was not ascertained.

Case 2.—A well-to-do Indian male, who had been in a good leprosy hospital for some time with extensive anaesthesia along the ulnar aspect of the right hand, and depigmented patches on the back, complained of acute pain and swelling of the ulnar nerve, which was very thick and very tender and tense. The skin near the internal epicondyle became red and hot, and as an abscess was suspected the nerve sheath was opened; nothing, however, was found, except a very large thickened nerve. On treating by rest in a splint, and sodium bicarbonate internally (30 grains every four hours), and 10 grains of phenacetin at night, the pain and inflammation gradually subsided, and the patient was able to use his hand again. During the acute reactions the subcutaneous injections of hydnocarpus oil were discontinued, but subsequently restarted, and the patient improved considerably. The ulnar nerve, however, was so grossly affected that permanent changes set in as the result of the formation of scar tissue in the nerve sheath.

Case 3.—A Burmese had had leprosy for three months so far as he knew. He complained of a swelling in the neck, which was found to be an enormously enlarged great auricular nerve; it was as thick as the little finger; the swelling was uniform down to the point where it disappeared behind the sterno-mastoid muscle; it was hard and tender to pressure, but there was no fluctuation. In addition, there was a raised erythematous patch over the right eyebrow, and another similar rash at the angle of the nose. On examination of these areas for *Microbacterium leprae* a few were found. The nasal secretions, however, were not positive.

While enlargement of the great auricular nerve is common in India, Burma, and Siam, this is the largest I have yet seen. In other countries, particularly the Philippines, enlargement of the great auricular nerve is not commonly seen to any extent. Case 3 was not diagnosed as leprosy at first; therefore it is important to look upon any enlargement of a superficial nerve with suspicion in countries where leprosy is endemic.

ROBERT G. COCHRANE, M.B., M.R.C.S., D.T.M. and H.,
Medical Secretary for the Mission to Lepers.

NITROUS OXIDE ANAESTHESIA: STATUS EPILEPTICUS: LUMBAR PUNCTURE: RECOVERY.

THE paper by Professor Ernest Glynn in the JOURNAL of May 29th (p. 895), reporting a death due to fulminating pneumonia after nitrous oxide anaesthesia, has recalled the following case to my mind.

A girl, aged 14 months, on June 4th, 1925, attended the out-patient department of the David Lewis Northern Hospital, Liverpool, with a small submental abscess. At 6.15 p.m. nitrous oxide anaesthesia was induced at the urgent request of the parents, but before the incision could be made the child entered into a state of status epilepticus. I admitted the child to the children's ward at 7 p.m. A hot mustard bath was given, and 6 ounces of normal saline with 1 ounce of glucose and 1 drachm of brandy were administered by the rectum. As the fits continued I withdrew, at 8.15 p.m., by lumbar puncture, 15 c.cm. of cerebro-spinal fluid under pressure. Chloretone gr. v was given by the mouth. At 11 p.m. the temperature was 107° and the child vomited twice, a trace of blood being present. Tepid sponging was resorted to. A rectal enema (the other had not been retained) produced only a clear fluid result. At 2.30 a.m., as the fits continued, the same dose of chloretone was repeated and chloroform anaesthesia induced. The patient slept for four hours, and at 9 a.m. was greatly improved and conscious. Two days later the submental abscess was opened without an anaesthetic, but on June 9th nystagmus to the left and twitching of the left side occurred; on the following day the hands assumed the accoucheur position. Acetone was present in the urine and glucose was being given at this time. At 5 p.m 20 c.cm. of cerebro-spinal fluid were withdrawn under pressure. Neither this nor the previous specimen contained organisms; the Wassermann reaction was negative. Under treatment with chloretone, calcium lactate, and glucose the patient improved, and a few days later was discharged in good health.

The case appears to add weight to the rule that anaesthetics in very young children are best avoided, if possible.

I am indebted to Dr. J. Murray Bligh, physician to the department for children's diseases, for permission to publish this case.

Liverpool. C. W. HEALEY, *M.C.*, M.B., M.R.C.S.

RASH IN SCARLET FEVER DELAYED TILL THE FIFTH DAY.

THE following remarkable case of delayed appearance of rash in scarlet fever is considered to be of sufficient interest to merit publication.

A child, aged 2½, was admitted to St. Mary's Hospital, Paddington, on June 7th, for cleft palate. Before the operation could be performed the ward had to be closed on account of an outbreak of measles. Further cases occurred and the ward remained closed. No visitors were admitted.

On July 2nd the patient had a temperature of 105°, which was maintained, with slight variations, for five days; on the fifth day it dropped slightly, and a faint erythematous rash appeared, chiefly on the legs, abdomen, and back. There was marked circumoral pallor, some evidence of sore throat, and the child had the general appearance of a case of scarlet fever. The rash, apart from its distribution, was typical, and I sent the child to the fever hospital. Next day (July 8th) I telephoned to the medical officer, who informed me that the rash had developed into well marked distribution of scarlet fever, and was beginning to peel, and that there was no doubt about the case being one of scarlet fever.

The interesting point, of course, is that there were no signs before the fifth day, except the temperature. I have never before heard of a rash being delayed so long as this. The child was well examined every day.

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What brings about the ill balance between the epiderm and the derm is the secret of psoriasis, and will doubtless be found eventually in cell electrophysics; but the action of chrysarobin is definite and points to a readjustment of this balance. The action of *x* rays is apparently very similar, at any rate so far as the histological appearances go, but I do not know sufficient about the chemical effect of such rays to suggest that they also act by an abstraction of oxygen from the tissues.

With regard to other methods of treatment I can only record a very brief experience. Arsenic in my hands, given to the limit of tolerance by the mouth, or by intravenous administration of arsenobenzol compounds, has proved disappointing, nor have I ever seen any results from administration of thyroid extract, except in one young woman whose psoriasis was connected with pregnancy and in whom exhibition of the gland extract certainly appeared to have a very decided influence.

In spite of Dr. MacKenna's statement to the contrary, I have found no benefit from ultra-violet light therapy, though I admit that my experience in this has been very slight, and I should be delighted to hear the opener's views corroborated, as any method of light therapy which can be applied over a large area has obvious advantages over *x* rays.

I would summarize my conclusions as follows:

1. Psoriasis may be treated with some prospect of success both by chrysarobin and *x* rays, the effects being produced more quickly and lasting longer by the former method.

2. Both remedies appear to produce the same histological picture—namely, a remarkable flattening of the papillary body and a probable increase in the intradermal pressure, which suggests that the cause of psoriasis may be a process which lowers the general dermal resistance.

GENERAL DISCUSSION.

Dr. W. DYSON (Manchester) said that, in his opinion, the first and most important line of treatment was rest. In his experience diet had little or no influence on the disease, but he always insisted on the absolute prohibition of alcohol in every form. As regards drugs, he found that salicin was most useful in the acute irritable stage, and arsenic when the inflammation had subsided and in the more chronic types of the disease. He had not seen any benefit from thyroid extract unless given in doses sufficiently large to make the patient ill. Locally, in addition to chrysarobin and tar, which Dr. MacKenna had mentioned as the most useful applications, he should like to add pyrogallic acid. Tar had the disadvantage that its long-continued use was apt to cause a pustular folliculitis and obstinate furunculosis. He had had no experience of haemotherapy as a treatment for psoriasis; *x* rays he no longer used, although he had done so in the past, as he found it gave no better results than other remedies and it entailed some risk to the patient. He had used injections of various bacteria—*B. coli communis*, typhoid bacilli, and staphylococci; they certainly had some influence on the disease, but he had never been able to clear a case by this method without the aid of local treatment. He did not think that it made any difference to the results obtained whatever species of micro-organism was employed. Lately he had been in the habit of using, after he had cleared a case by the usual methods, and for the purpose of preventing recurrences, a polyvalent staphylococcal vaccine (1 c.cm. = 1,000 million staphylococci) detoxicated by being heated for half an hour at 70° C. He gave a dose of 1 c.cm. and repeated it every three months, being of opinion that it diminished the chances of recurrence. In some cases this method failed, possibly owing to wrong dosage, or wrong length of interval between the doses in the individual case.

Sir NORMAN WALKER found himself in agreement with the opinion that a great many of the recently vaunted remedies had not stood the test of experience. He thought that Dr. MacKenna was too pessimistic about the old Fowler's solution. For years the speaker had taught that arsenic was certain to do harm in acute cases, and he had advised his students never to use it in such, but a published opinion of Dr. Whitfield's to the contrary made him reconsider the matter. The results of his experiments were that quite a number of patients to whom previously he would not have ventured to give arsenic were greatly benefited. Sir Norman Walker was interested in Dr. Whitfield's reference to *x* rays and ultra-violet light. Many years ago Nevins Hyde had argued that psoriasis was one of the prices of civilization, and that it was hardly known among negroes living in uncivilized conditions in Central Africa. Hyde had constructed in Chicago glass houses (dim glass houses) on the top of a sky-scraper building, where patients were exposed to such rays of light as penetrated the glass. He claimed that the effects were quite remarkable, and, when it was first noticed that *x* rays could cause patches of psoriasis to disappear, the possibility occurred that some rays were common to *x* rays and sunlight and that to these the benefit might be due. In the days when ladies' blouses were known as "peek-a-boo" the speaker had observed that the very large V which they often exposed was an area which was generally free from psoriasis. Dr. MacKenna seemed almost to prefer tar to chrysarobin. Sir Norman Walker agreed with him that the effects of tar lasted longer than those of chrysarobin unless the latter was very efficiently used. But they should not forget that the skin showed idiosyncrasies to remedies as well as to accidental irritants, and that a person whose skin was irritated by pine tar might be benefited by birch or coal tar. Like Dr. MacKenna, he had not found that diet, however unpalatable it might be made, could be depended on to give much help, but he agreed with him still more cordially in the remark that alcohol always did harm. Patients who had psoriasis should be total abstainers. Dr. Skinner's demonstration had been most interesting, and, to one who had long pinned his faith to chrysarobin as the most efficient treatment, it was very gratifying to find so valuable a recruit demonstrating its effects so strikingly. The first outbreak of psoriasis should always be treated seriously, and the same care and attention should be given as in the case of an acute illness; the child should be put to bed and treated until the eruption had disappeared. If that were always done, there would be far fewer cases of recurrence, and there would also be fewer if patients did not somehow get the idea that psoriasis was *bound* to recur.

Dr. MACKENNA replied very shortly, and the proceedings of the Section terminated with a hearty vote of thanks to the President.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

RECOVERY AFTER MASSAGE OF THE HEART.

I READ Mr. Girling Ball's article, in your issue of April 24th (p. 732), with much interest. About eighteen months ago I had a somewhat similar experience, which I only refer to now as it may have some bearing on Dr. Harrington Sainsbury's letter (May 22nd, p. 883) relative to Mr. Girling Ball's case.

A man, aged 40, was admitted to the Royal Infirmary, Dumfries, on November 27th, 1924, with a history of persistent vomiting. There was nothing in the history or the clinical examination which pointed to a definite diagnosis, and *x*-ray examination was negative. Nothing abnormal was found in heart, lungs, or secretions. I performed exploratory laparotomy on November 30th. My house-surgeon, Mr. M. C. Wright, gave chloroform, and the patient took the drug well. I thought the stomach was normal in appearance and size, but detected something abnormal, round and hard, behind it. On lifting the omentum, transverse colon, and stomach forward, I found a hard gland, with rough uneven surface, about the size of a Tangerine orange—probably the product of an old tabes mesenterica—lying fixed in the tissues of the root of the mesentery, in the duodeno-jejunal angle. At this point, without the slightest warning, the patient's heart and respiration absolutely stopped. His colour was ashen grey, the conjunctivae were dry, the pupils dilated and fixed. The usual restorative measures were adopted—head lowered, tongue brought forward, artificial respiration, warm fomentations to chest wall over the heart, etc.

It was soon apparent that these measures were hopeless, and I had thus wasted several minutes before I enlarged the wound in the abdominal wall and massaged the heart through the

RADIATION IN EMBRYOLOGY AND GYNAECOLOGY.

PROFESSOR DORLAND and Dr. HUBENY of Chicago have produced a very beautiful volume entitled *The X-Ray in Embryology and Obstetrics*.[2] Dr. George W. Bartelmez contributes a short introductory chapter on the nature of the x rays and upon their physiological action. The authors then proceed to a general discussion of the influence of x rays and allied radiations upon living tissue. It is important to notice that, in the view of these experts, their application in pregnancy is not without an element of danger to the unborn infant. Naturally, the danger is greatest where radiation is employed in the early months. Radiation during late pregnancy is not likely to produce gross deformities or abnormalities in the child at birth, but it may ultimately cause retardation of growth subsequent to birth. A short exposure for purely photographic purposes in the later weeks is not likely to have any bad effect upon the child. In the next six chapters the development of the embryo as revealed by x rays is discussed systematically. This is a most valuable portion of the work, and will be read with interest and profit by surgeons and physicians, as well as by obstetricians and radiologists. The x-ray photography of the vascular system in different organs provides a fascinating study. The employment of x rays in the investigation of the maternal pelvis is next discussed, and various methods are explained and illustrated. The diagnosis of normal and abnormal pregnancy and the various forms of pelvic contraction are fully dealt with and illustrated. Then follows a chapter on the diagnostic value of x rays in teratogenesis, and several chapters upon different varieties of foetal monstrosities, with x-ray photographs, showing the nature of the skeletal deformities.

The volume, as has been said, is beautifully illustrated throughout, and the authors and publishers alike are to be congratulated on the illustrations. The authors appear to have based their conclusions on sound data, and do not attempt to claim too much. The result is that their book is stimulating, and should do much to encourage further study along similar lines. It is a mine of information into which workers in all branches of the medical profession may delve with profit.

NUTRITION AND METABOLISM.

WE have received a copy of *Lectures on Nutrition*,[3] which contains a series of six given by well known authorities at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa, and Washington (St. Louis). As is pointed out by Dr. Louis B. Wilson in the introduction, the lectures contain a large amount of fresh and interesting information without attempting to cover in detail the entire subject of nutrition. Dr. F. G. Benedikt, who contributes the first lecture, entitled "The measurement and significance of basal metabolism," shows that basal metabolism, while undeniably in a state of flux and subject to the influence of factors other than those of age, is a very good index of the general state of vital activities, and as the result of the introduction of simplified methods can be determined by a much simpler technique than that for counting the blood corpuscles. In his lecture on "Problems of metabolism" Professor Graham Lusk, after an interesting historical introduction in which he jocosely remarks that inadequate knowledge of the older literature is one of the problems of metabolism requiring treatment and cure, discusses the variability of heat production, the relation of heat production to surface area, the effect of protein and protein derivatives on heat production, and the metabolism of fat and carbohydrate, terminating with the practical application of glucose in cases of nervousness and prostration. Professor Eugene F. Du Bois, who in the following lecture discusses the proportions in which protein, fat, and carbohydrate are metabolized in disease, especially in typhoid fever, tuberculosis, and circulatory and renal disorders, maintains that there is no valid reason for the protein-free diet sometimes advocated in the two last named diseases. Muscular activity and carbohydrate metabolism form the subject of a lecture by Professor A. V. Hill, who presents several instructive charts indicating the effect of exercise on metabolism. In his lecture on our present knowledge of vitamins, Professor E. V. McCollum gives an admirable survey of the subject, and indicates the role which vitamins play in influencing metabolism. The relations between fertility and nutrition are discussed in the last lecture by Professor H. McLean Evans, who brings forward evidence of the existence of vitamin E, the absence of which gives rise to sterility. A bibliography of recent literature is appended to each lecture.

[2] *The X-Ray in Embryology and Obstetrics* By W. A. Newman Dorland, A.M., M.D., F.A.C.S., and Maximilian John Hubeny, M.D., F.A.C.R., F.A.C.P. London: H. Kimpton. 1926. (7×9½, pp. xv+420; 259 figures. 50s. net.)

[3] *Lectures on Nutrition*. 1924-25. Philadelphia and London: W. B. Saunders Company. 1926. (Post 8vo, pp. 243; 22 figures. 12s. net.)

THE MIND OF THE YOUNG CHILD.

"A PSYCHOLOGICAL outline of normal development from birth to the sixth year, including a system of developmental diagnosis" is the subtitle of a book entitled *The Mental Growth of the Pre-School Child*,[4] written by Dr. ARNOLD GESELL, the director of the Yale Psycho-Clinic. In his introductory remarks he states that in observing the young child his object is to bring the familiar and the scientific into closer relation. The purpose of this rather bulky volume is to report the data gathered during investigations on some 500 children. The material is arranged in four parts, of which the first three are mainly descriptive and interpretive. A description is given of the gradual development of motor power, language, adaptive behaviour, and personal-social behaviour, and reproductions of action photographs show various stages in development. Part IV deals with practical applications in developmental diagnosis, and an attempt is made to devise an adjustable clinical instrument. Though the physical needs of school children have received considerable attention, it is only now being realized that the needs of the pre-school child, both physical and psychological, should receive more attention. Behaviour is considered as the functional index of developmental maturity. The neurone pattern concept is used as a formula to assist interpretation and observation. "The mental development of a baby becomes somewhat less elusive if we regard the progress of his attainments and his propensities as the maturation of both inborn and acquired neurone patterns." Interest in development is universal, and now, thanks to the rapid multiplication of infant welfare centres, interest in the health of children is increasing. It is probable, therefore, that in the near future health examinations will broaden into developmental examinations, and include a psychological inquiry into the health, habits, dispositions, capacities, and personality traits of the child. Helped by medical teaching, parents may then be able to assist the child to achieve mental as well as physical health. To those interested in such possible developments the summary of data given in this book will prove useful.

NOTES ON BOOKS.

DR. W. J. STONE'S handbook on *Blood Chemistry Colorimetric Methods* is addressed to the general practitioner. Since a second edition[5] has followed the first in two years we must believe that the author has not wooed in vain, though we find it difficult to believe that any considerable body of medical men will be persuaded to institute their own laboratories and adventure on a path which is as yet poorly prospected. The new edition has swollen both in bulk and in price. The price, indeed, will appear high to those whose traffic in medical books has not extended to those made in America, since the book is but a modest labour, and its production, though attractive, is not—it has no cause to be—sumptuous. The usual colorimetric methods for the determination of the chief constituents of blood are included, together with clinical comments on diagnosis. Particularly we note a discussion

[4] *The Mental Growth of the Pre-School Child*. By Arnold Gesell, Ph.D., M.D. New York: The Macmillan Co.; London: Macmillan and Co., Ltd. 1925. (Demy 8vo, pp. x + 447; 225 figures. 15s. net.)

[5] *Blood Chemistry Colorimetric Methods*. By Willard J. Stone, B.Sc., M.D. Introduction by George Dock, M.D. Second edition, revised. New York: P. B. Hoeber, Inc. 1926. (Med. 8vo, pp. x + 129; 7 figures. 3.25 dollars net.)

Reviews.

LEAD POISONING.

It has been known for some time that a band of workers in Harvard University and the Massachusetts General Hospital, headed by Dr. AUB, was trying to solve some of the problems connected with lead poisoning. The monograph on *Lead Poisoning*[1] is the outcome of their labours, and is an excellent illustration of what team work can accomplish. Plumbism is an interesting study, but with too many ramifications for any one individual student to follow up. Gaps in knowledge are being gradually filled, and to that the researches of Dr. Aub and his co-workers have materially contributed. The subject is approached by them more from the chemical and physiological points of view than from the clinical. The inquiry is mainly concerned with the reaction of lead in the body. There is generous recognition in the book of the work done by British, French, and German writers, also by American contributors, in the field of industrial plumbism.

The detection of lead in inorganic compounds is, chemically speaking, easy, but the same cannot always be said when the metal is combined with organic material. Before tests can be applied the organic material must be destroyed. Sulphuretted hydrogen may thereafter throw down a black precipitate in an aqueous solution, but if serum be present it will only give a wine-red colour. Yet the authors maintain that when the technique described in the monograph is applied, 1 part of lead in 10,000,000 parts of urine may be detected. Various methods of testing for lead are described, including the colorimetric, the electrolytic, the chromate, and the microchemical.

Most of the ordinary lead compounds are soluble in the gastric juice, but in varying degrees: the carbonate has a solubility of 40 per cent., sulphate 9.5, and natural sulphide 2.5. These varying solubilities indicate how readily plumbism may occur when the metal enters the body by the gastro-alimentary canal, but while this is a common route probably the larger bulk of industrial lead poisoning is a consequence of absorption of dust through the respiratory tract. The fine dust, for example, given off during the dry sand-papering of a lead-painted surface is, when inhaled, a fruitful source of poisoning. The amount of lead in the blood at any time is small, so that its isolation and identification are difficult. The authors lean to the view that the absorbed lead is present in the form of colloidal phosphate rather than albuminate, as suggested some time ago by Sir Thomas Oliver. The slow accumulation of lead in the body and its deposition in the bony tissues provide the opportunity to the authors of drawing attention to the formation of lead phosphate. They have found that under equilibrium conditions di-sodium phosphate and lead chloride react to form di-lead phosphate; also that, when the two reacting substances are first mixed, tri-lead phosphate is formed. The presence of any localized acid product transforms the tri-lead salt to di-lead phosphate. It is these two salts—the tri-lead and di-lead hydrogen phosphates—which are of interest, since the one can be transformed into the other within the body, and thus influence the health of the individual.

Most are familiar with the fact that lead can be stored within the body without giving rise to symptoms, until through some defect in the diet, or the presence of infection, the reaction of the tissues becomes altered, and a larger amount of lead appears in the circulation. In the blood of animals fed with lead salts only a few thousandths of a milligram may be found so long as the animal remains in apparently good health; but when acidosis develops the amount of lead circulating in the blood becomes increased. In a fatal case of lead encephalopathy in a man there were found 2.8 mg. of lead per litre of blood, equal to 3.64 mg. of tertiary lead phosphate. The Harvard research workers are of the opinion that the bulk of the colloidal lead phosphate is held by the plasma, and that little is carried by the blood corpuscles. In the case of a rabbit poisoned by lead the amount of lead in the blood amounted to 0.75 mg.; of this 0.59 mg. was in the plasma and 0.16 mg. in the red corpuscles; in other words, 80 per cent. was held by the plasma. When a soluble salt of lead is added to blood serum a precipitate is formed which the authors state may probably be lead albuminate, but this white precipitate soon dissolves, for it is sensitive to changes in acidity. Prévost and Binet in 1889 taught that the lead present in the bones of animals experimentally poisoned by lead was in the form of phosphate. Owing to the small amount of the metal present—10 to 20 mg. in 150 grams of bone—Aub and his colleagues admit that it has been impossible to separate the lead compound so as to identify it absolutely as phosphate. The chemical problems connected with this aspect of the question have been, however, most carefully studied by them.

The three channels by which lead enters the system (the skin, respiratory tract, and alimentary canal) are considered and contrasted. While the principal channel is the respiratory, it is difficult to exclude simultaneous absorption by the alimentary canal. When absorbed through the respiratory tract lead gains entrance almost directly into the blood stream, but when swallowed part of it is eliminated in the faeces, while soluble particles which are absorbed may be held up in the liver. It is thus, as Legge properly maintains, that work carried on in dusty lead processes becomes so dangerous; moreover, poisoning through the respiratory tract occurs more rapidly.

It is in the skeleton, as already stated, that Aub and his colleagues have found lead deposited in largest quantities. The circumstance is interesting, for, although it might be expected that the metal would become specially fixed in the marrow, this is not the case, since the greater amounts were found in the solid portions of bone, usually in the form of tertiary phosphate. The authors confirm the statement made by previous writers as to the comparative absence of pathological changes observable *post mortem*, even where well marked symptoms were in evidence during life, and they affirm that incorrect conclusions have frequently been drawn from autopsies revealing lesions characteristic of conditions other than lead poisoning. It is an equally interesting circumstance that, while the liver bears the brunt of comparatively large quantities passing through it, the opinion expressed by Oliver is confirmed that *post-mortem* examination of the liver by the naked eye reveals no changes which can be regarded as specific for lead. Mention is made of the minute haemorrhages found by Mott, Legge, Goadby, and Courtney in the perivascular spaces in the brain; also of the examination of the cerebro-spinal fluid by Mosny of the Hôpital St. Antoine, Paris, and by Malloizel. Experimentally lead is shown to alter rather the surface of the red blood corpuscles than to exercise any special influence upon their contents. While "stippling" of the red corpuscles is dealt with, the presence of punctate basophilia in the blood cannot be regarded as a specific sign of plumbism. It occurs in pernicious anaemia, leukaemia, and in the anaemias associated with the presence of neoplasms in the body; but in these conditions basophilia is slight compared with what it is in lead poisoning. The authors describe the symptomatology of plumbism, and allude to Ocker's treatment by the daily intravenous injection of sodium hyposulphite (0.6 gram); they state also that in their hands the intravenous injection of calcium chloride, 15 c.cm. of a 5 per cent. solution, slowly administered, promptly relieved colic.

It is appropriate that the closing chapter of the book should have been written by Dr. ALICE HAMILTON. She deals with the prevalence of industrial lead poisoning in the United States. Her work in this direction is not less well known and appreciated in Great Britain.

The book is a record of investigations thoughtfully organized and carefully carried out. As these cover ground hitherto largely untouched, valuable information has been gained which will be of the greatest assistance to all who are interested in the problems of lead poisoning, and to that end the well prepared and extensive bibliography will also contribute.

[1] *Lead Poisoning.* By Joseph C. Aub, Laurence T. Fairhall, A. S. Minot, and Paul Reznikoff. With a Chapter on the Prevalence of Industrial Lead Poisoning in the United States by Alice Hamilton. Medicine Monographs, Vol. VII. London: Baillière, Tindall and Cox; Baltimore: The Williams and Wilkins Company. 1926. (Med. 8vo, pp. x + 265; 35 figures. 18s. net.)

THE INTERNATIONAL PHYSIOLOGICAL CONGRESS AT STOCKHOLM.

(*Concluded from page 317.*)

THE twelfth International Physiological Congress ended with a meeting in the Hall of the University of Upsala, to which the members were taken from Stockholm by a special train. Here, after an address of welcome from the Rector of the University, invitations for the next congress, in 1929, were read from Milan and the United States of America; after a little discussion the meeting decided to accept that from America.

Upsala, the oldest and largest university in Sweden, possesses spacious, well equipped laboratories of physiology, anatomy, pharmacology, and chemistry. Stockholm has no university, but several independent institutes, notably the Caroline Institute of Medicine, which has small but exceptionally well equipped laboratories. The only other university in Sweden is at Lund, which, unfortunately, there was no opportunity to visit. The meetings of the congress were all held in the Stockholm City Hall and the demonstrations in the Caroline Institute.

The Parathyroid Hormone.

Of the papers read bearing more or less directly on medicine, perhaps the most important was that of Collip (Edmonton, Canada) on the parathyroid hormone. His conclusion is that tetania parathyreopriva is due to a hypocalcaemia, and that injection of an extract of the parathyroid gland increases the concentration of calcium in the blood and arrests the tetany. Injection of the extract into normal animals sets up a hypercalcaemia and results in death in forty-eight to seventy-two hours; large amounts of calcium are then found in the kidneys, heart, and liver, as well as in the blood. Collip recommends as treatment for tetany, both post partum and resulting from parathyroidectomy, the raising of the blood calcium to a normal figure by injection of parathyroid extract, and then its maintenance by calcium lactate.

Diabetes.

Several papers were read on the subject of diabetes; notable among them were that by Peserico (Milan), who has shown conclusively that the tissues of a diabetic animal *can* burn sugar; and those by Mansfeld (Pécz) and Voronoff (Paris) on the operative treatment of diabetes. Mansfeld prevents about one-third of the pancreas from secreting the digestive juices, with the result that the internal secreting glands hypertrophy, so that normal animals operated on in this way get a hypoglycaemia. Voronoff has succeeded in grafting the pancreas of one dog into another previously depancreatized and with severe glucosuria; complete recovery resulted.

Sex Reversal.

Pézard (Paris) reported an interesting observation with regard to sex reversal in fowls. By implantation of varying amounts of testicular substance into ovariotomized hens, he has shown that there is always a complete sex change or none at all—that is to say, that implantation of half the amount of testicular substance that is just sufficient to give a sex reversal does not give a partial reversal; it has no effect. The sex of the birds was very ingeniously determined by implantation of a comb on the back—in a male the graft takes and the comb grows to a full size; in a female it atrophies completely.

Ovarian Transplantation.

Voronoff and Didry (Paris) read a report on what may prove to be a very important piece of work, although considerable scepticism was expressed at the meeting. They have transplanted a human female ovary into a female chimpanzee, previously ovariotomized, with the result that normal menstruation returned. They then fertilized this chimpanzee with human sperm, and menstruation ceased, so that they now await the birth of a human child. Even if this actually occurs there is no doubt that confirmation in other laboratories will be required before the explanations given can be fully accepted.

Some Other Papers.

Koppanyi (Chicago) gave an account of experiments showing that regeneration of the central nervous system is possible in fish, larvae of amphibia, and embryonic and young rats. Mann (Rochester) read a summary of his observations on the results of extirpation of the liver, in which he states that there is a decrease in blood sugar, no formation of urea or deaminization, uric acid is not destroyed, and that there is no change in the formation of bile; and Howell (Baltimore) described the results of his attempts to determine the constitution of the anticoagulant heparin. It appears to be largely glycuronic acid, and there is no nitrogen or phosphorus. He stated also that haemophilia is due to the platelets not breaking up on coming into contact with foreign bodies; there is no lack of prothrombin.

Demonstrations.

The two most important demonstrations were those of Mrs. Kerridge (London) on the glass electrode method of determining the hydrogen ion concentration of solutions, and of Yandell Henderson (New Haven) on the ethyl iodide method of determining the rate of circulation of the blood. The determinations by the glass electrode are rapid, taking about two minutes, are independent of the nature of the solution, and are very accurate. The apparatus is portable, and is to be put on the market by the Cambridge Instrument Company.

Distractions and Gratitude.

As a relaxation the congress made an expedition to Saltsjöbaden, the pleasure resort of Stockholm—a place of pine trees and granite islands, on an arm of the Baltic sea—in two specially chartered steamers. Here the members bathed, dined, and danced.

In this way Stockholm catered magnificently for our amusement as well as for our instruction, and every member of the congress owes the city a deep debt of gratitude for the wonderful way he was entertained.

L. E. BAYLISS.

THE HEALTH OF LONDON, 1925.

REPORT OF THE LONDON COUNTY COUNCIL.

THE reports of the medical officer of health and of the school medical officer of the London County Council for 1925 have been published in one volume as Volume III (Part) of the Annual Report of the Council.[1] They have been prepared by Dr. Menzies in collaboration with Sir William Hamer, and the occasion of the latter's retirement at the end of 1925 has prompted the introduction, into the report of the medical officer of health, of a short review of the Council's public health work during the period of its existence and since the appointment of its first medical officer of health, Sir Shirley Murphy, in 1890. The late Dr. Niven, on his retirement three years ago from the post of medical officer of health for Manchester, prepared *Observations on the History of Public Health Effort in Manchester* during the period 1894-1923, and the opportunity is taken to compare and contrast the conditions in London with those of Manchester and to refer to points of resemblance and difference in the health problems of the two cities during these two similar periods.

VITAL STATISTICS.

The population of London in the middle of 1925 was estimated at 4,612,000. The marriage rate was 17.2 per 1,000, the birth rate 17.9, and the death rate 11.9. With the exception of abnormal fluctuations during and immediately after the war, birth and mortality rates have steadily declined during the last fifty years, the decline in the birth rate being particularly rapid since 1900. But the most striking statistical result is the remarkable decrease in infantile mortality. For the period 1841-1925 the mean of the rates is 141.7 per 1,000 births. In 1899 the rate was 170 per 1,000, but from then onwards it has steadily fallen to 61 per 1,000 in 1923, 69 in 1924, and 68 in 1925. These figures indicate the influence of collective sanitary effort

[1] London County Council: Annual Report of the Council, 1925. Vol. III (Part): Public Health (including the Reports for the Year 1925 of the County Medical Officer of Health and School Medical Officer). (10 × 6½ in., pp. 170.)

of the diagnosis of impaired kidney function, useful dietary tables for the control of various metabolic disturbances, and comments upon the management of the diabetic by aid of insulin and diet. The last is based upon the principle of the ketogenic-antiketogenic balance.

The appearance of a second edition of Professor SCHRÖDER's *Lehrbuch der Gynäkologie*[6] within four years of its publication testifies to the popularity it has achieved. Its success would appear to be thoroughly justified, as it deals scientifically with the whole subject of gynaecology. It is profusely illustrated, and the illustrations are for the most part good. Numerous coloured plates, reproduced with remarkable faithfulness, add very much to its value. Gynaecological pathology is well handled, but treatment does not receive very full discussion, and there is no attempt to describe operative methods. This is all the better, as there are already many books dealing with that more or less exclusively. Suffice it that Professor Schröder's work will certainly be a standard one for many years to come for all workers in the subject in all countries.

In their *Atlas of Midwifery*[7] Mr. COMYNS BERKELEY and Dr. GEORGES DUPUY have collected into one comparatively small volume a series of 256 pictures which illustrate practically all the points in connexion with the teaching of midwifery that lend themselves to pictorial representation. They are arranged according to the usual sequence of teaching. The first series deals with the anatomy of the female reproductive organs; the next with conditions of pregnancy; the third with labour; and the fourth with the newborn child; lastly there is a small series of radiograms. There is really nothing new in the illustrations, which are almost all more or less familiar, or at least of a familiar type; but there is no doubt that to have them collected in this way will be a convenience for teachers and for students. For nurses training for their C.M.B. examinations merely to turn over the pages of this atlas, and to read the short explanatory legends attached to each figure, is to obtain an interesting and rapid revisal of the whole subject. The authors, in our view, have done a distinct service in publishing this little volume.

Two small but charmingly written books by women doctors from the Far East give stories culled from their experience in the service of the Church of England Zenana Missionary Society. *Flashlights on Chinese Life: Yellow Dragon Street and other Stories*,[8] by the late Dr. MABEL PANTIN (1867-1926), in spite of its rather vivid title and the bizarre dragon in yellow and red on the cover, shows the manifold charity and touches of quiet humour of this devoted woman, who died shortly after writing it, having had twelve weary years of illness which, however, did not damp her wonderful vitality and keen enjoyment of life. Her portrait—a fine face—forms the frontispiece, and the scenes of her labours are illustrated in the text. It contains an unsigned appreciation of Dr. Pantin, and is divided into two parts, about Fukien and Hunan respectively. In *A Woman Doctor on the Frontier*[9] Dr. CHARLOTTE S. VINES tells stories of her life and patients in India, with its infinite variety of native character and its rapid climatic changes; it is written in a simple and appealing style, as much as to say, "Come over and help us." Her reference to the late Dr. Katherine Gregg, who lies among "the heroes of the frontier," surrounded by "the everlasting hills," reminds the reader of the sacrifices, all unnoticed in this busy world, that these women doctors cheerfully make in the mission field. Told with dramatic force and pathos, these stories will no doubt make the woman reader consider whether she is called to follow such an active and beneficent life.

[6] *Lehrbuch der Gynäkologie für Studierende und Ärzte.* Von Dr. Med. Robert Schröder. Zweite neubearbeitete Auflage. Leipzig: F. C. W. Vogel. 1926. (Sup. roy. 8vo, pp. xvii + 725; 330 figures, 3 plates. M.35; bound, M.39.)

[7] *An Atlas of Midwifery.* By Comyns Berkeley, M.A., M.C., M.D. Cantab., F.R.C.P.Lond., M.R.C.S.Eng., and Georges M. Dupuy, M.D. London: Baillière, Tindall and Cox. 1926. (Med. 8vo, pp. viii+160; 248 figures, and 8 in *x*-ray supplement. 7s. 6d. net.)

[8] *Flashlights on Chinese Life: Yellow Dragon Street and other Stories.* By Mabel Pantin, L.M.S.S.A. London: Church of England Zenana Missionary Society. 1926. (5½×8, pp. 55; frontispiece and 16 illustrations. 1s. 6d.)

[9] *A Woman Doctor on the Frontier.* By Charlotte S. Vines, L.R.C.P. and S.Ed. London: Church of England Zenana Missionary Society. 1925. (Cr. 8vo, pp. 78; frontispiece. 1s. 3d.)

PREPARATIONS AND APPLIANCES.

A Cannula for Intravenous Injections.

DR. A. E. ROCHE (London, W.) has devised a cannula for intravenous injections, which is a modification of Clayton-Greene's tapering blunt-pointed cannula, and is made by Messrs. Weiss.

He writes: Although Clayton-Greene's cannula for ease of introduction is superior to the large bulbous-ended cannulae, which are too large for introduction into the collapsed vein, and to sharp-pointed instruments, which have occasionally caused vexation by piercing the opposite wall of the more or less empty vein, yet it has, he thinks, the following disadvantages: Since the tip of the instrument is closed and the fluid leaves the cannula by a lateral opening about one inch up the shaft, intravenous injections have sometimes been found impossible, either because the vein is so small that the cannula opening was still outside it when the tapering shaft had plugged the opening, or because a Y-shaped division of the only available vein obstructed the complete entry of the cannula. The passage of the fluid was often stopped by the lateral hole in the cannula coming tightly

against the vein wall, necessitating rotation in order to restart the flow. The cannula may bend or break at the site of the lateral opening. The modification devised by Dr. Roche retains the advantageous blunt tip and tapering shaft of Clayton-Greene's cannula, but has no lateral hole to weaken it; the fluid flows from the terminal oblique opening, and is thus not liable to obstruction by the wall of the vein. Dr. Roche adds that the advantages claimed for the modification have been fully substantiated in practice, using either saline solution or citrated blood.

ADMISSION OF WOMEN TO THE BRITISH MEDICAL ASSOCIATION.

MR. R. G. HOGARTH, in his Presidential Address at the Annual Meeting at Nottingham, made reference to the fact that it was at the last preceding meeting in Nottingham (1892) that the vote admitting women to full membership of the Association had been adopted by an overwhelming majority, only three or four hands being held up against it in a meeting of about 300. The resolution was moved by the late Dr. J. H. Galton of Upper Norwood, then a member of the Council, and held in very high esteem by all members of the Association. It was seconded by Mrs. Garrett Anderson, M.D., who had been elected a member before the restriction was imposed. Of the speakers none opposed it.

The following letter has been addressed to the President, Mr. Hogarth, by some medical women who desire to express their appreciation of his reference.

August, 1926.

DEAR MR. PRESIDENT,

We, the undersigned medical women attending the Annual General Meeting at Nottingham, feel we cannot allow to pass unnoticed your timely and much appreciated reference in your Presidential Address to the fact that it was at the last Annual General Meeting held in Nottingham in 1892 that medical women were admitted to the British Medical Association.

We wish to express our deep sense of what we owe to Dr. J. H. Galton, who proposed the resolution, Mr. Lawson Tait, Dr. W. H. Ransom of Nottingham, and Dr. Elizabeth Garrett Anderson, as well as to all those who helped them in attaining this privilege for us—a privilege which Sir Victor Horsley did so much to maintain in later years. We feel that this important step taken by the British Medical Association has been amply justified by the benefits which have accrued both to the British Medical Association and to medical women.

We are, Mr. President,
Yours very truly,

MARY SCHARLIEB	E. LANDON
SARAH GRAY	EILEEN M. M. MACDONALD
	E. C. MCGREGOR
R. H. ADAMSON	A. LOUISE MCILROY
E. N. BAKER	A. R. MCKAIL
F. MAY DICKINSON BERRY	DOROTHEA J. MANN
	J. M. MORTON
LIZZIE BLANDY	BERTHA M. MULES
M. GLEN BOTT	C. M. MURRELL
EILEEN COX	SARAH H. NELSON
E. CURRIE	E. FRANCES PAIGE
GWENDOLYN G. DAVIS	F. M. PEARSON
GRISELDA A. DOW	ANNIE F. PERRY
F. MARY ERSKINE	M. S. PURCE
MEA FRAZER	KATHLEEN E. RUTHERFORD
J. HELEN GARROW	ELIZABETH G. MACDONALD SMITH
H. H. CHODAK GREGORY	DOROTHY M. SUMMERS
MARY K. HENEGAN	WINIFRED A. M. THOMPSON
F. R. HODGES	MARGARET J. TROTTER
M. W. HUBBLE	JANE WALKER
E. HENRIETTA JEBENS	GLADYS WARD
CHRISTINA F. KERR	KATHLEEN M. WARD
KATHLEEN F. KITCHIN	NORA M. WILSON

British Medical Journal.

SATURDAY, AUGUST 21ST, 1926.

TUBERCULOSIS AND THE STATE.

MODERN governments are faced by two irreconcilable demands. On the one hand, there is the need for economy in order to repair the loss of wealth caused by the war; on the other hand, there is the continual demand for State support for various measures designed to improve the health and well-being of the community. Often enough the two demands are made by one and the same person; so that a taxpayer, anxious for some relief from his burdens, is found in the incongruous position of asking the State for money or officials to aid his pet scheme for social amelioration. In health matters it is probable that most of the schemes originate from members of the medical profession, who succeed in invoking the assistance of distinguished laymen in forming a society for the purpose of impressing upon the Government the need for action. We have recently published reports of various societies engaged in the prevention or cure of tuberculosis; and it may be useful to attempt a dispassionate review of the present position of this matter from the social aspect.

Tuberculosis is a disease which invites the attention of the social reformer. It is so widespread that there can hardly exist a family in which some instance of its ravages has not occurred. Its infective origin is well known, so that, theoretically, it should be capable of extinction; being for the most part a chronic disease, its extinction would result in a great saving of wealth to the community. But though the reduction in mortality has been very great during the last fifty years, the death rate from this disease still remains high, in spite of the concentrated efforts of many societies for some thirty years past.

It is possible that in the campaign against tuberculosis the advocates of a particular measure are apt to forget certain facts. In the first place, the mortality from the disease began to decrease long before campaigns were thought of, even before the cause of the disease was known. Was this reduction in mortality due to acquired immunity, to a change in the character of the disease, to better habits of the people, or to better conditions of life? The answers to these questions are of importance to the statesman called upon to decide whether he shall spend State money on the elimination of the disease. Secondly, the *Bacillus tuberculosis* is ubiquitous in all civilized communities; so much so that it is generally agreed that most of us have at one time or other been infected. Some of those engaged in antituberculosis campaigns appear to base their proposals on the supposition that the bacillus can be exterminated. The statesman is entitled to ask whether this is a practicable proposition. Thirdly, failure to remember the two previous facts has led to confusion between prevention and cure in the aims of the various societies engaged in antituberculosis campaigns. Let us try to enumerate the methods that have been advocated for combating the disease. At the conference of the National Association for the Prevention of Tuberculosis held recently at Glasgow Sir Robert Philip described the "actual place and function of the tuberculosis dispensary in the tuberculosis scheme." It is now forty years since Sir Robert Philip conceived the idea of the tuberculosis dispensary. It is curious that after forty years' experience Sir Robert still thinks it clear that the principles effectively applied to other infective conditions are applicable likewise to the ubiquitous *B. tuberculosis*. The tuberculosis dispensary is admirable as a centre for diagnosis, for the treatment of ambulant cases, for the examination of contacts, and as a clearing house for other institutions engaged in treatment of the disease. Its only contribution towards the extermination of the disease is statistical; whereby also it may help to prove the ultimate futility of some of the other measures adopted. The tuberculosis dispensary "has collected," says Sir Robert Philip, "living proof of the universality of tuberculosis throughout the community." And his remark about hospital beds in former times applies still, possibly, to sanatoriums; "the small percentage [of patients] which attained admission enjoyed the available benefit for a relatively short period." Dispensaries have shown also the frequency of tuberculosis in children, and the spread of the disease by mass infection in crowded households. Yet even after all these years Sir Robert Philip is constrained to the view "that the ideal of the dispensary and its great possibilities are not realized everywhere."

If we examine sanatoriums from the point of view of the cure of the disease, it will probably be admitted that they have not fulfilled expectations. Sir Robert Philip says that the dispensary has proved "how valueless may be the result of short periods of residential treatment—as, for example, the classic three months in a sanatorium." It is for this reason that officers at sanatoriums continually demand very early cases. At an early stage no one can say whether the disease is likely to be progressive, or whether the case is one of those slight infections from which nearly all of us are supposed to suffer, and from which the majority of us recover in any case. Probably the real truth about sanatorium treatment is that, while of value to the individual, it is mainly educative; that it is expensive; and that from the point of view of prevention or the extermination of tuberculosis its value is small compared with the magnitude of the whole task.

From the statesman's point of view, however, the interest in sanatorium treatment is that it leads to a fresh demand. The navvy, who has been mended to some extent in a sanatorium, is obviously unfit to return to navvydom. It becomes necessary, therefore, to provide training centres in order that he may learn some lighter job within the measure of his capacity for work. In this matter also confusion creeps in. The training is not only good for the community by affording the damaged man an opportunity for work; the work is also good for the individual and helps his betterment by giving him an object in life.

One feature of tuberculosis schemes is the appointment of Tuberculosis Care Committees. These are at present voluntary bodies which endeavour to supply some sort of supervision of the person who has been found to suffer from the disease, who may or may not have had a period of treatment at a sanatorium, with or without training in some occupation. Tuberculosis Care Committees have been somewhat perturbed lately by the proposal that they should find suitable work for patients from training centres, as is shown in the report of the employment subcommittee of the Joint Tuberculosis Council which we summarized on July 3rd (p. 20). The care committees find it difficult to steer between the Scylla of the man

on the public health, and especially of the maternity and child welfare activities of recent years.

An analysis is made and a chart introduced of the mortality from different groups of disease since 1841. The chart, however, is not attractive. The contours are on different scales for different groups, and are not based on death rates per 1,000 of population, but on the actual deaths as registered, so that its value for comparative purposes is negligible. Deaths from diseases of the circulatory system and cancer, and to some extent from influenza and pneumonia, have steadily increased, but this is attributed to greater accuracy in diagnosis and certification and to change of fashion in nomenclature more than to actual increase.

Infectious Diseases.

Some interesting facts are to be gathered from this section of the report. In describing a comparatively slight outbreak of small-pox in Bethnal Green in 1925 the report states that in a school in the heart of the affected area 799 out of 1,370 children had never been vaccinated, and, when the public vaccinator visited the school, the consent of the parents to vaccination was obtained in 27 cases only. There were 304 cases of encephalitis lethargica as compared with 605 in 1924. The case mortality showed considerable fluctuation, however, being only 22 per cent. in 1924 as compared with 40 per cent. in 1925.

Influenza.

A considerable amount of space is devoted to a discussion on periodicity and forecasts of influenza epidemics. The conclusion arrived at is that although forecasts as long ahead as two years can be made the number of instances is too small to justify any reliance being placed on them. An hypothesis of a thirty-fifth week recurrence fails, by the authors' own confession, in several instances. Yet they indulge in forecasting the calamity of a prevalence of influenza about the end of 1926. The reservation of failure is comforting.

Typhoid Fever.

The epidemiology and causation of typhoid fever are also discussed in a somewhat controversial criticism of American writings as compared with the London experience. The latter seems to favour the consumption of ungutted plaice and shellfish as the cause of enteric, the former polluted milk and water and healthy carriers. The discussion, however, leads nowhere, and appears unnecessary in a report of this kind. All it tells us is that the London experience of typhoid differs in some respects from the experience of other communities. For example, the once familiar autumnal increase has practically ceased since 1912 in London, while still exhibited in other parts of England and Wales; and typhoid fever fails to show special incidence on the poorer areas. The actual number of cases notified in London in 1925 was 395 with 49 deaths, as compared with 410 and 53 deaths in 1924.

Tuberculosis.

The deaths from pulmonary tuberculosis show a rate of 0.95 per 1,000 of population in 1925. The rate has declined since 1922 and preceding years, when it exceeded 1.0 per 1,000. The number of cases notified in the London boroughs was 9,661 for all forms of tuberculosis and 7,554 for pulmonary tuberculosis. The number on the register at the end of the year, prepared in accordance with the Public Health (Tuberculosis) Act of 1924, was 39,551 pulmonary and 15,074 other forms. In the administrative section of the report an interesting and full account is given of the London County Council's tuberculosis scheme, together with a history of the movement which led up to it, and which commenced in 1909.

Venereal Diseases.

A page of special interest deals with the control of venereal diseases. Under the London and Home Counties scheme 5,902 cases of syphilis, 11,321 of gonorrhoea, and 279 of soft chancre, or a total of 17,502 new cases, voluntarily came for treatment at the hospital clinics. This is 779 fewer than in 1924, the decrease being almost entirely due to a reduction of 724 in cases of syphilis. The total attendances at the clinics amounted to 646,131, or 36 for each new case, a considerable advance as compared with previous years. It is significant that the ratio of attendances in countries where there is compulsory notification of venereal diseases has never been greater than the London ratio with its voluntary system.

The Bacteriological Laboratory.

The remainder of the medical officer of health's report contains a report from the bacteriological laboratory by Dr. Graham Forbes, with some important details of the examination of cerebro-spinal fluid as an aid to clinical diagnosis in a variety of conditions of meningitis and cerebral lesions, and a special investigation of the role of the streptococcus in relation to throat infection and the transmission of puerperal fever and scarlet fever. The investigation was, however, too limited in extent to admit of definite conclusions.

Report of the School Medical Officer.

In an introductory note attention is drawn to the phenomenon presented by infantile mortality, to which reference has already been made, and to the influence on public health of the Education Act of 1870, which is considered to have operated mainly in developing in parents a sense of responsibility for the health and lives of their children. Seven important developments in connexion with school medical service were contemplated by the London County Council in 1925—namely, the examination of children leaving school, the extension of dental treatment, inauguration of centres for in-patient treatment of tonsils and adenoids, establishment of special ionization centres for treatment of ear disease, and further provision for remedial exercises, for open-air education, and for special medical services.

The report contains a mass of facts, too numerous to consider here, but of great interest and importance. It may be noted, however, in connexion with the report on rheumatic heart disease in children by the special subcommittee of the British Medical Association, published as a Supplement to the Journal of July 3rd last, that a special section is devoted to the manifestations of rheumatism in childhood. A spot map of London shows that the distribution of rheumatic children was chiefly in areas along the alluvial valleys marking the courses of old rivers running into the Thames. It has not been found possible in the present state of knowledge to suggest specific steps for preventing attacks of rheumatism. The most hopeful measures, it is considered, include greater attention to nose and throat ailments, improvement of housing conditions and home care, and special facilities for convalescent treatment, provision for which is totally inadequate at present. As regards school attendance, administrative action on the lines already worked out for the tuberculous child is recommended. All this confirms the conclusions arrived at in the British Medical Association Subcommittee's report.

Several statistical tables conclude the report of the school medical officer. It appears that the total number of routine inspections of children in elementary schools was 238,713; in addition 1,652 children were inspected in special schools. A considerable number of special inspections were also made; in 42,882 instances special notes were made, and in 33,475 the children were inspected collectively. In 159,388 cases re-inspections were made. The defects found at medical inspections in elementary and special schools are set out in a table, from which it appears that the most frequent condition found, at routine inspections, to require treatment was dental disease; the cases numbered over 70,000. Defective vision was noted in 26,000 children, and called for treatment in over 20,000. There were in addition about 2,600 cases of squint, and over 2,000 of them were recommended for treatment. The number of cases of enlarged tonsils was 20,417, of adenoids 3,168, and of cases with both enlarged tonsils and adenoids 4,493; of these the numbers requiring treatment were respectively 11,653, 2,235, and 3,780.

The reports form part of Volume III of the annual report of the Council for 1925, but there is a curious discrepancy between the table of contents and the text. The contents shows two chapters, XXI and XXII, whereas the text indicates that the whole report forms Chapter XXIII of the Council's annual report.

year the number of persons slain by mechanically propelled vehicles passed the five hundred mark—it began to be, if not essential, at least desirable to choose secondary roads connecting important towns, and for the next three years the quiet cyclist developed a taste for road strategy; the good strategist was he who found an effective route by secondary roads without being actually forced to carry his machine over stiles or through quagmires. Such a one congratulated himself that he had better glimpses of the countryside than the mechanically propelled enemy who occupied the high roads in force. After the war those whose gluteal regions and nerves were not both of iron had sadly to realize that for the man or woman past 40 the "push bicycle" was not a suitable instrument of pleasant locomotion along any motor-infested roads for more than an hour at a time.

Like all revolutions this has had to be paid for in blood and, it is to be supposed, tears. There is no doubt about the blood, for while in 1904 only 171 deaths were attributed to mechanically propelled vehicles, in 1924 there were 2,990, giving a rate of mortality of 77 per million, the highest yet recorded. Two attempts to analyse this mortality and to point the moral have been made—one by Major P. G. Edge in a paper read before the Royal Statistical Society this spring and just published,[1] the other in the Registrar-General's Statistical Review of 1924.[2] The statistical study of this matter is a very much more difficult undertaking than the outsider might suppose. To set out the actual increase of mortality and to allocate the deaths to the type of vehicle responsible is easy enough and has been satisfactorily done in both the papers. The mere rate of mortality per million rose from 5 in 1905 irregularly to 14 in 1910, and then without faltering to 36 in 1914, and since the war has risen from 46 in 1919 to 63 in 1923 and 77 in 1924. In 1904 motor cars were responsible for 33 per cent. of the small total mortality due to mechanically propelled vehicles, and have pretty well kept station since they had 34 per cent. of the much larger total in 1924. Motor omnibuses—not a sensible factor in 1904—have shown very large variations, and, since 1920, have increased their percentage claim by one unit a year, from 6 per cent. in 1920 to 10 per cent. in 1924.

Owing to changes in the registration laws it is not possible to show over the whole period comparable ratios of deaths to registered vehicles, and, with the exception to be noted below, it is not possible to show the ratio of deaths to users of motor vehicles, which is evidently what one would like to know. To judge from one of Major Edge's tables, it would appear that there has been no consistent increase in the ratio of deaths to registered motor vehicles between 1906 and 1921 in England and Wales; the table he gives for the County of London is not, of course, relevant, since deaths within the county need not be caused by motor vehicles registered in the county.

The Registrar-General is able to make an approximate comparison of fatal accidents due to motor buses and trams within Greater London in terms of mileage. In 1921-23 the approximate mileage, in millions of miles, of buses was 361 and of trams 273; the numbers of passengers carried by the two types of vehicle were almost equal—in each case rather more than 3,000 million. Of fatal accidents recorded by the police, the buses were responsible for 226 and the trams for 91. In terms of either miles run or passengers carried, the trams were safer than the buses. The Registrar-General has also studied, in rather more detail than Major Edge, the age distribution of fatal accidents classified by type of vehicle, and brings out the interesting point that while, speaking broadly, motor car drivers kill other people, especially children, motor cyclists kill themselves and the girls behind. Thus of every 1,000 fatal accidents due to motor cars 310 happen to persons under 10 years of age, but only 63 of every 1,000 accidents associated with motor bicycles. Only 94 per mille of the deaths due to motor cars are of persons aged 20 to 35, but 368 per mille of the deaths due to motor cycles are in this age group. The motor lorry is relatively quite as fatal to children as the motor car, but the electric tramcar is less fatal than the motor bus.

The moral the Registrar-General draws is that "probably the greater safety of the tram is largely due to its ample braking power, which may also account for its special superiority at ages 10-20, those at which boys fall off bicycles in front of trams and buses. If so, it would appear that it is very largely to increase of braking power that we must look for decrease (relatively to mileage run) of the mortality under consideration. From this point of view the recent tendency to fit four wheel brakes on motor cars is of much importance, and should in time effect a considerable reduction in the disproportionate mortality at 5-10, since at this age especially it may be possible to avert a fatal accident only by full and timely use of ample braking power."

Major Edge, being less weighted by official responsibility, makes more revolutionary suggestions—namely, (1) compulsory examinations to determine physical fitness, technical skill, and driving capacity before the issue of driving licences; and (2) compulsory insurance of the vehicle against mechanical defect (including third-party risk). These suggestions did not commend themselves to such experts as took part in the discussion of his paper. The objections certainly read like those which are invariably made to any reform, but it is not for us, without technical knowledge, to judge whether they are or are not sound. We can follow the speaker who urged that technically competent drivers might be, and sometimes were, grossly inconsiderate road users, but we do not see how this leads to the conclusion that a technical examination is useless. Indeed, most of the arguments seem equally to favour free practice in medicine, the law, and every other occupation entrance upon which involves passing a technical examination. No sensible person ever supposed that such a qualifying examination ensured that the successful candidate should be an efficient surgeon, lawyer, or actuary; what has been claimed, and admitted, is that such a test does prevent the letting loose on the public of dangerously ignorant persons. Law, drugs, surgical instruments, and even figures, are certainly dangerous weapons in the hands of the ignorant, but a high-powered motor car is no toy, and observation of some of our country roads in the holiday season, supported by the Registrar-General's figures and a perusal of the reports of inquests, suggests that some fatal accidents are due to inefficiency.

It is not improbable that the present state of affairs is only a passing phase. Motor traffic has of course come to stay. Its commercial use will no doubt

[1] *Journ. Roy. Stat. Soc.*, lxxxix, 1926, pp. 405-451.
[2] *The Registrar-General's Statistical Review for England and Wales for the Year 1924.* Text, pp. 104-111.

who is incapable of making a success of his job and the Charybdis of the trade unions, who object to the competition of subsidized labour.

A further attempt to deal with tuberculous persons is found in colonies such as that at Papworth in Cambridgeshire. To such colonies the tuberculous man is transplanted with all his family; he is placed under hygienic conditions; he is watched and treated by a medical staff; and the products of his labour are disposed of in a commercial manner. In some places this method of treatment has been successful up to a point, although it is hardly to be expected that the venture can ever be a complete commercial success.

The methods of campaign which we have described have, speaking generally, a curative aim. Incidentally, of course, they may have a preventive effect in removing a potential source of mass infection from too close contact with his fellows. But the ubiquity of the bacillus must render any preventive effect comparatively ineffectual, and certainly enormously costly. There are other measures which offer some hope in prevention by attacking the bacillus at some of its main sources of origin, or by raising the resistance of the community to its invasion. No one doubts that better housing accommodation, more light and air, a pure milk supply, all help to check the growth of the bacillus, or at least to render resistance stronger. Probably these factors were instrumental in reducing the mortality before the germ was discovered. Latterly, however, more direct efforts have been made to render the host of the bacillus more immune. The unfortunate experiences of the use of Koch's tuberculin delayed researches in this direction enormously, though tuberculin has continued to be used for diagnostic purposes in cattle. Dr. Camac Wilkinson and his followers have always maintained that with proper supervision tuberculin is not only useful for the diagnosis of tubercle in the human being, but also has very marked curative effects. More recently we have had occasion to publish some of the results obtained by Calmette in Paris by pre-immunization with the bacillus Calmette-Guérin (B.C.G.).[1] Pre-immunization is defined as a vaccination, comparable with that produced by vaccinal viruses, but with the difference that it is bound up with the persistence of the vaccinating organisms in the lymphatic tissues of the immune subject. The vaccine is given by the mouth in three doses on alternate days, within the first ten days after birth. The reason assigned by Calmette for this limitation of time is that the intestinal mucosa of newly born animals easily absorbs bacteria, but loses this power in a few weeks. Experiments on calves and monkeys have, as we have already reported, yielded encouraging results, but the method is still in the preliminary stage, and Calmette writes with great caution about it. He has, however, consented to its use at a considerable number of tuberculosis dispensaries in France and in the French colonies. The possibility of arranging for a trial of it in this country is under consideration, but it would be premature at present to say more than this.

We have attempted a brief and impartial review of the various methods by which tuberculosis is being attacked. In doing so we have tried to bear in mind the information required by a statesman who is called upon to assist the experiments that are in progress. For throughout all the reports that we have examined there runs the thread of State assistance and subsidy; and it is interesting to note that when governments embark on large schemes of social amelioration each successive plunge in welfare schemes brings with it fresh difficulties. The tuberculous patient whose health has to some extent been mended in a sanatorium may need, and in perhaps the majority of cases does need, some more suitable occupation than his own. Training centres become necessary. When the course of instruction at a training centre is finished, the ex-patient needs a job. The local care committee is asked to help in the difficult task of finding one for him; and when the job is found it seems clear, from hints in the reports, that the ex-patient sometimes makes a mess of it, and is once more thrown upon the State. Hence one of the causes of the development of settlements. The difficulty in settlements is to make them pay their way. The employees are damaged persons, and, as a rule, unfit for more than six hours' work a day. They are working in competition, not only with labour that is sound in wind and limb, but also with labour that is organized in trade unions with pronounced, if sometimes disputable, views on economics. And so there comes the appeal to the State for assistance. The granting of that appeal by the State naturally involves some voice in the management of the venture; and the position is reached in which some begin to advocate absorption by the State. Without any wish to minimize the misfortunes of the consumptive, nor any desire to undervalue attempts to reduce or control possible sources of infection to the rest of the community, it is possible to feel doubts as to the wisdom of embarking on a large expenditure of State money in what are, at present, experiments. Neither sympathy for the unfortunate consumptive, nor fears for extension of infection, should be allowed to lead to hasty and ill considered expenditure. As private ventures settlements, for example, are interesting experiments; in the hands of devoted enthusiasts they may, to some extent, be made to pay; in any case as experience is gained difficulties will be sifted out. With State interference it is possible that enthusiasm will evaporate, expenses increase, and a burden be added to the State without commensurate benefits. For it is evident that settlements can only touch the fringe of the tuberculosis problem, and that lavish expenditure upon them may cripple more remunerative enterprises for the benefit of consumptives. And behind the whole method of settlements, sanatoriums, and other attempts at curative measures, there looms the question whether research should not be directed mainly to the production of resistance to the attacks of a ubiquitous and unexterminable germ.

[1] British Medical Journal, March 27th, 1926, p. 581.

MOTOR ACCIDENTS.

It is a commonplace to say that of the changes in the externals of life which anyone over forty can perceive, the transformation of road traffic is the most striking. Most of us can recollect the golden age of him now derisively termed the "push cyclist": it was between 1895 and 1904, when pneumatic tyres had become reasonably reliable and the mere cyclist was still a welcome, almost an honoured, guest in country inns. In those happy and not very far off times the cyclist was the king of the road, and there were even people who accused him of a selfish disregard of the comfort of other road users, and of an addiction to dangerous speed. For some years after 1904 touring with a bicycle on the main roads of England was still agreeable, but by 1910—in which

to haemolysing agents. Previous work had shown that the spleen has an effect on the red blood corpuscles. After splenectomy the red cells of the general circulation are more resistant to hypotonic solutions. Brinkman, investigating the resistance curves of normal blood, concluded that in circulating blood there are three groups of red cells with different resistances to hypotonic solution. First, a most resistant group of about 10 per cent.; secondly, a middle group of about 80 per cent.; and thirdly, a group of very little resistance, the cells being disintegrated at a very low degree of hypotonicity. He called these three groups young, average grown, and old cells. The blood of the spleen, when examined in a similar way, differs. The red cells of the spleen are less resistant than the red cells of the general circulation. They cannot be divided into the same groups. The average group is present, but less resistant. The other groups are not marked off from the middle group, and the type of old or least resistant cell does not seem to be present in the blood of the spleen. It is therefore concluded that the blood of the spleen is a selected blood, and that it is less resistant to hypotonic solutions. When haemolysed by saponins the blood of the spleen is more resistant than the cells of the general circulation. From other observations it is inferred that the lessened resistance to hypertonicity and the greater resistance to saponins are due to a smaller content of phosphoric acid. The red corpuscles of the spleen would therefore contain less phosphoric acid than the cells of the general circulation. That these differences do not arise owing to residence in the spleen was shown by emptying the spleen and then immediately collecting the blood as it was allowed to re-enter the organ. This blood was found to contain corpuscles whose resistance was the same as that of corpuscles obtained from the spleen before it was emptied. Cruickshank found that the spleen, when made to contract by electrical stimulation of the splanchnic nerves, will expel in the cat an amount of blood that represents 2.5 to 5.6 per cent. of the total blood volume of the animal. This blood is more concentrated and therefore richer in haemoglobin, to the extent that 8 c.cm. of splenic blood is equivalent to 9.5 c.cm. of normal blood. So far as these investigations go the functions of storing and concentrating blood seem to be peculiar to the spleen.

CONTAGIOUS BOVINE ABORTION AND UNDULANT FEVER.

ALL medical men are now familiar with the recent work—mainly French and American—which has shown the existence of a relation, apparently very close, between contagious abortion of cows and pigs and undulant fever of goats and man. It is now generally believed that the same organism is responsible for both diseases, but that the caprine strain is normally pathogenic for man while the bovine strain is harmless, only becoming pathogenic in exceptional circumstances. Bevan[1] reported outbreaks of what appeared to be human undulant fever in Rhodesia, and believed that he could definitely exclude goats or sheep as the source of infection. Contagious abortion, however, existed in cattle, and he considered that this was the origin of the disease in man. More recently Moore and Carpenter[2] have reviewed our present knowledge of the position. As early as 1913 Larson and Sedgwick tested by complement fixation the serum of women who had aborted, and found that a larger number reacted when the contagious abortion organism was used as antigen than when the usual Wassermann test was applied. Similarly, children from bovine abortion districts often showed the presence in their blood of antibodies of the *Bacillus abortus*, while those from districts free from that organism did not give a positive reaction. This has been the experience of subsequent workers. The number of recorded cases of undulant fever in patients who have had no opportunity of contracting the disease from goats is gradually increasing. Kennedy in 1914, for example, found two cases in England in people who had never left the country. Keefer in 1924 reported a case in America in which the organism was actually isolated and in which the clinical picture was that of an undulant fever. Other cases have been recorded from many parts of the world in which the source appeared to be either raw cow's milk or else actual contact with infected bovine placental or other material. Moore and Carpenter report six new cases from America. The first was diagnosed originally as typhoid fever, later as miliary tuberculosis, and then as malaria; but blood cultures on six occasions revealed the *B. abortus*. The patient presented the typical syndrome of undulant fever. The microbes isolated from several other cases have produced typical bovine abortion in heifers. The source of the infection in this series appeared to be cow's milk. After tuberculosis, contagious abortion is the most important and widespread disease of dairy cattle in England. The organism is frequently excreted in the milk, and undoubtedly many people ingest it daily. English people, moreover, have no natural immunity to undulant fever, though there is no general infection. The results quoted above, however, indicate that its presence cannot be ignored as a source of some of the low-grade fevers of unrecognized etiology found in this country. The *B. abortus* has another importance to those engaged in public health work. Injections of this bacillus in milk into guinea-pigs produce a pathological picture which is very similar in many cases to that produced by the tubercle bacillus, and unless the lesions are examined microscopically for the presence of acid-fast organisms the milk may be unjustly condemned as tuberculous.

[1] BRITISH MEDICAL JOURNAL, March 21st, 1925, p. 554.
[2] *Cornell Vet.*, 1926, xvi, p. 147.

KITCHENER MEMORIAL MEDICAL SCHOOL AT KHARTUM.

THE buildings of the Kitchener School of Medicine, Khartum, were completed by the end of 1923, and the school was formally opened by the late Major-General Sir Lee Stack on February 29th of the following year, this being his last public act in the Sudan. The inaugural address which he delivered on this occasion is published in the first report of the medical school, which has now been issued. A general outline of the proposed curriculum was published by Dr. O. F. H. Atkey, director of the medical department of the Sudan, in our columns on September 29th, 1923 (p. 581), and the first report of the school, which covers the years 1924-25, shows that good progress is being made in every way. The building stands on two and a half acres of land, and contains laboratories for teaching chemistry, physics, biology, anatomy, physiology, and pathology, with a lecture room and a library. Clinical instruction is given at the Khartum Civil Hospital, where a new out-patient department has recently been completed. Medical research laboratories are shortly to be built in the hospital enclosure immediately opposite the school buildings; increased facilities will thus be afforded for tuition in pathology, including bacteriology, protozoology, and parasitology, while opportunities will be afforded for post-graduate research. An additional school hostel is proposed, in order that the increased number of students expected in 1927 may be accommodated. These students will be drawn for the most part from the final year of the Gordon College. At the opening of the school ten students were admitted, and in 1925 an additional eight were received. A four-year course is the rule; the first year is devoted to chemistry, physics, and biology, the second to anatomy and physiology, the third to medicine, surgery, pathology, and pharmacy,

increase, but whether as a sport motoring will be permanent is perhaps doubtful; indeed, just as the car has made the main roads unpleasant for the bicycle, so the lorry, charabancs, and motor buses may push the small pleasure car off the roads, and those plutocrats who rejoice in the Rolls-Royce will betake themselves to the air. What the effect of this upon mortality statistics will be is a question for prophets of the school of Mr. H. G. Wells.

AGRICULTURE AND HELMINTHOLOGY.

The duties of the Ministry of Agriculture are many and various, but they all have to do with the food of man, its quantity and quality, but in particular perhaps the former, which is apt to be diminished by a vast number of parasites, animal and vegetable, including bacteria, fungi, protozoa, and worms. In the study of animal pathology the Ministry already assists in the maintenance of the department in Cambridge now under the direction of Professor J. B. Buxton. For the study of the preventive side—that is to say, for the observation of infestations of animals and plants—the Ministry has recently enabled the London School of Hygiene and Tropical Medicine to establish a small experimental field station near St. Albans, which has been appropriately placed under the directorship of Professor R. T. Leiper, F.R.S. It is not yet in full working order, but already certain researches are under way. In a new field of experimentation like this it is probable, of course, that not a few results, at the beginning at any rate, will be negative. The field station consists of a small farmhouse and outbuildings and thirty-three acres of land pleasantly situated, partly surrounded by woods, and bounded on two sides by the Herts County Council Agricultural Institute. The barns have been converted into laboratories for the accommodation of at least five research workers, for in addition to the director there must be assistants dealing with helminthology, protozoology, bacteriology, and fungi. The stabling is at present used mainly for goats, and other buildings have been converted into habitations for cats and rabbits, or for housing incubators for poultry and pheasants. Attached to the buildings are kennels and runs for dogs, and pens used at present chiefly for the breeding of guinea-pigs. The pasture is being used for experiments on the roundworms and tapeworms of lambs, and the arable land for the investigation of the attacks of eelworms on various roots and crops. Many interesting results have already been obtained. Thus lamb tapeworm disease was supposed to be communicated through the mother's milk. But here may be seen a sheep brought up by the ewe and showing no sign of tapeworm, while its brother and cousins, brought up on cow's milk—with a curious stunting of growth as a result—and then pastured on infected grass, are passing innumerable tapeworm segments. So far the intermediary host of this tapeworm has eluded research. To eelworms has been attributed one of the forms of potato disease. But it is possible that the presence of the cysts of the worm on the rootlets which attracts the attention of the cultivator is rather a coincidence or a sequel than the actual cause of the disease. At all events, potato plants infested with eelworm may show very little difference in growth or produce from those not so infested. These eelworms are of topical interest because of the development of the beet-sugar industry in this country. Abroad the beet is very liable to infestation; the crops in this country have been grown from seed, so that the variety infesting beet has not been imported, though it is, of course, not at all certain that it may not find its way here. Many kinds of plants in this country are infested with eelworms, and it appears that the eelworm of one vegetable, such as the potato, does not, although morphologically identical, attack a different vegetable, such as the beet. This opens up great possibilities for the study of host varieties, and researches of this kind, directed by an able director, cannot fail to be of enormous value to the cultivator.

THE PREVENTION AND EARLY TREATMENT OF MEASLES.

From much experience of naval cadets and boys at Dartmouth and in training establishments and ships, Surgeon Commander B. Pickering Pick[1] brings out some points showing the benefit to be obtained by the patients and in preventing the spread of the infection as a result of early recognition and isolation of the first case or cases in a collection of young non-immune boys. This procedure has also enabled him to make some observations on the clinical features at a stage of the disease which does not commonly come under notice. Early rest in bed in an even temperature for four days before the appearance of the rash was found to be definitely valuable as a prophylactic of complications. In a recent epidemic involving 110 cadets this plan was followed by complete freedom from pulmonary affections, although there was much pharyngeal and tracheal cough. Isolation of the first case and of the contacts at the earliest possible moment was shown to be capable of obviating an epidemic; an important factor is the close inspection of the records of the temperature in the potential cases, a morning rise after a normal temperature on the previous evening being suggestive of infection. In quite a large number of cases there was a lenticular eruption of widely scattered spots, rose-pink to brown in colour, on the trunk twenty-four to forty-eight hours before the true rash came out. It may be noted that these prodromal rashes, which are variable in nature and transient in duration, have been estimated to occur in 50 per cent. of the cases. Commander Pick's experience showed that the longer the pre-eruptive stage the more severe was the exanthem, but that the rash was sometimes scanty and transient; he thinks it probable that it may be absent. Little reliance was placed on Koplik's spots, which did not assist much in diagnosis, as they were not frequent in one epidemic, thus differing from the usual estimate of 90 per cent. or more. The potential cases which actually developed did so with remarkable uniformity on the eleventh day from exposure to infection. As a last practical point attention may be directed to the author's conclusion that the period of treatment in bed usually recommended is not sufficiently long, and that twelve days' rest in bed, including three days after the temperature is normal, is followed by rapid convalescence.

THE FUNCTION OF THE SPLEEN.

Sixty or seventy years ago students were taught that the spleen acted as a reservoir for the blood, which was emptied from it into the general circulation when the body required it. This theory was for long under a cloud, but Barcroft and others have recently shown that the spleen does act as a reservoir, and empties itself when the body requires more haemoglobin. Then the reservoir is filled again. The only source from which it can be filled is from the blood supplied to it by the general circulation. The question has been raised whether this blood differs from that of the general circulation, or whether it is detained without selection. Answers have been sought by two workers in the Physiological Laboratory, Cambridge—Orahovats, a Rockefeller Fellow from the University of Sofia, and E. W. H. Cruickshank.[2] The particular quality chosen by the former was the resistance of the blood of the spleen

[1] Pick, B. P., *Journ. Roy. Nav. Med. Serv.*, 1926, xii, 201-206.
[2] *Journ. Physiol.*, vol lxi, pp. 436 and 455.

than females. The reasons for this discrepancy between the sexes have not yet been ascertained. In about three-fourths of the cases of rheumatic heart disease, rheumatic fever, either alone or in combination with other infections, was an etiological factor; tonsillitis in one-fourth; chorea in a little more than one-tenth; and "growing" or joint pains in about one-twentieth. With the exception of chorea, which occurred twice as often among females as males, the relative frequency of these infections was about equal for the two sexes. Rheumatic heart disease was rare after 50 years of age; from 90 to 95 per cent. of the cases occurred before the age of 50 years, and more than half of these before the age of 30. About 50 per cent. of the syphilitic cases occurred before the age of 50, and 50 per cent. after this age; the disease appeared to be rare before the age of 40 and after the age of 60. From 80 to 95 per cent. of the cases of arterio-sclerotic heart disease occurred after 50 years of age. Two-thirds of the cases of unknown etiology presented lesions typical of rheumatic heart disease, and occurred before the age of 50. The available mortality statistics for organic heart disease are considered to be inadequate to justify any attempt to study the age incidence and duration of the disease, because they are based on deaths recorded in accordance with the International List of Causes of Death, which is not so classified as to make it possible to distinguish beween the infectious and degenerative varieties of the disease. It should be added that in this investigation the proportion of cases in children was slightly lowered by the method of investigation used.

UNDESIRABLE IMMIGRANTS IN MARSEILLES HOSPITALS.

A FEW months ago (April 3rd, p. 631) our French correspondent called attention to some recent statements made by M. Weil to the Académie de Médecine, and M. Marie to the Medical Society of Paris, as to the large proportion of foreigners in the hospitals of Paris, and M. Berthoumeau raised the same question in relation to the great convalescent home for patients discharged from the hospitals of the capital. He found that the percentage of inmates born outside French territory had risen from 5.6 in 1914 to 14.6 in 1925. He added that the number of British subjects in Paris hospitals is negligible. A similar question has now been raised before the Académie de Médecine by Dr. Léon Imbert, who described the effect of post-war immigration of foreigners of the pauper class on the hospitals in Marseilles. After each catastrophe, he said, such as the disaster to Wrangel's army, the burning of Smyrna, the expulsions from Constantinople, a fresh influx of undesirables has occurred, with the result that 25 or 30 per cent. of patients in Marseilles hospitals are foreigners, and even at Lyons the proportion has risen in three years from 4.5 to 7.3 per cent. Very often admission has to be refused to a French patient. Dr. Imbert does not object to Italian immigrants, whose assimilation into the Marseilles population is rapid; though he hints that Italy, with her lively consciousness of her personality and the role she has to play in the world, might establish a hospital of her own in Marseilles, or, better still, subsidize existing hospitals. But he would like discussion raised on the motley crowd of Syrians, Armenians, and so on, who flood the hospitals. It is only too evident that the Governments of the native countries of these people have washed their hands of them, although they have embarked for Marseilles at the orders of those Governments. In the discussion which followed Dr. Imbert's paper, Dr. Jeanselme enumerated the sixteen different nationalities of 27 out of the 211 patients treated in the venereal disease clinic of the St. Louis Hospital. He stated also that 11 out of 42 in-patients were foreigners. Dr. Léon Bernard suggested that as many of Dr. Jeanselme's patients had probably contracted syphilis in Paris, the right to complain was perhaps on their side. Apparently an attempt is to be made to deal with the situation by appointing a commissioner of immigration and naturalization; it is suggested also that an international understanding is necessary.

AVIAN TUBERCULOSIS.

RECENT years have shown an increasing tendency to consider the problems of human and bovine tuberculosis as merely aspects of the same great problem; but avian tuberculosis has not received the same amount of attention, though cases due to this strain have been reported in practically all the domestic mammals and in man. To the rabbit, and to the pig also, avian is almost as pathogenic as is bovine tuberculosis, but to other mammals it is less infective than the mammalian strains. Tuberculosis in birds is exceedingly common throughout the world, and practically all species may be infected. The barnyard fowl is the chief reservoir, but the disease is often conveyed by pigeons and other smaller and more mobile birds. Parrots have a peculiar susceptibility to all three strains, and may suffer from human, bovine, or avian tuberculosis. Apart from the great economic loss to poultry farmers, the problem of avian tuberculosis has a twofold interest. That it is a very common source of infection in pigs—producing, however, a more benign disease than does the bovine virus—has been known since the time of the Royal Commission on Tuberculosis, but from the results of a recent inquiry in Nebraska, U.S.A., it appears that nearly 90 per cent. of the cases of tuberculosis in pigs are due to the avian bacillus. Recent studies in Denmark of contagious abortion have shown also that the avian bacillus may cause tuberculous metritis in cattle, leading to placental detachment and subsequent abortion, and that this strain has a certain predilection for the pregnant uterus. So far the prevalence of avian tuberculosis has had only an economic importance, but the influence of poultry diseases on human medicine has been so considerable that we cannot afford to neglect this aspect of the general disease. Pasteur began protective vaccination with chicken cholera; Ross did his preliminary work on the transmission of malaria with the avian disease; and more recently Gye has advanced his theory of the causation of cancer from a study of Rous's infective sarcoma of fowls. These three examples serve to show how unwise it would be to neglect the study of diseases of birds which in themselves may not seem to cause danger to human health.

THE University of Sydney is about to appoint a professor of psychiatry, who will be required to give both undergraduate and post-graduate instruction. He will be expected to engage in research, but to be interested in clinical rather than in pathological work. He will have access to all mental hospitals, and will have the assistance of the departmental pathological laboratory. He will be required to act as honorary physician in connexion with the out-patient department at the Royal Prince Alfred Hospital, as visiting officer to Broughton Hall Hospital (150 beds) for uncertified mental patients, and to take charge of the patients in it. He may engage in consulting practice, but approximately half his time must be devoted to University and State duties. The salary is £1,100 a year; he will be appointed for seven years, but may be reappointed. A notice of the vacancy will be found in our advertisement columns, and full particulars can be obtained from the Registrar of the University, or from the Agent-General for New South Wales, Australia House, Strand, London, W.C.2.

while the fourth includes the last four subjects with the addition of gynaecology, forensic medicine, and public health. The first objective of the school is to supply a simplified medical education for young Sudanese, who will work subsequently under British doctors at the larger hospitals, take charge, under some supervision, of smaller hospitals and dispensaries, and engage in campaigns against endemic diseases. Later on, when the present urgent need for doctors has been met, it is proposed to raise the standard of training by increasing the length of the curriculum to five years, thus bringing it into line with that of European medical schools. Post-graduate classes will also be established for students who have previously graduated. It is hoped to supply an average of six doctors each year, beginning in January, 1928. The anticipated expenditure of the school for the years 1925, 1926, and 1927 is approximately £3,000, £5,000, and £6,000 respectively. An annual income of £3,019 is provided by the interest on the endowment fund, together with an annual grant from the Lord Kitchener National Memorial Fund; it will be necessary, therefore, to supplement the income from other sources.

PROTECTION OF SEAMEN AGAINST VENEREAL DISEASE.

We published recently (July 31st, p. 205) a report of an international conference in Norway to consider an international scheme put forward by the Norwegian Red Cross Society for the promotion of the health and welfare of the sailor. One of the resolutions of the conference was to the effect that the League of Red Cross Societies should invite the International Health Office, the Health Organization of the League of Nations, and other international organizations, to appoint a standing committee on the welfare of seamen, which should provide, in particular, for medical treatment and recreational facilities at ports. The matter has been for some time under the consideration of the International Labour Office, which has issued recently, as one of its series of studies and reports, a history of the movement, initiated some years ago, for the protection of the health of seamen against venereal diseases.[1] While venereal diseases were being actively attacked amongst the civil and military populations during and after the war, nothing had been done, either nationally or internationally, to combat them in the mercantile marine, notwithstanding the obvious danger of disease being introduced into the country through the ports. We understand that this was strongly brought to notice by the chairman of the Services Committee of the National Council for Combating Venereal Disease some seven years ago, and, although the document under review does not record this fact, the opportunity is taken of referring to it here, as the credit of a movement, which has developed into an international convention and is bound to have a beneficial influence on the mercantile marine of all nations, should be granted to those who worked with the National Council for Combating Venereal Disease in the early years after the armistice. The movement passed from national to international spheres of action at the International Labour Conference held at Geneva in 1920 specially to consider maritime questions. The present report relates how it developed from that time, until eventually an agreement, drafted originally in 1921 by the Office international d'hygiène publique in Paris, providing for the maintenance of venereal treatment centres at the chief river and sea ports for merchant seamen and watermen of all nationalities, and for enabling continuous treatment to be carried out at sea and on shore, was signed in April last by several States as an international convention. It is unfortunate that certain countries—notably Germany, Japan, Spain, and the United States, as well as Australia and South Africa—have refused to adhere to it, so that there are still several gaps to fill in the benefits afforded by it. The movement, however, is still in its infancy internationally, and the International Labour Office has done good service in issuing a report on the subject at the present time. Co-ordination of and uniformity in measures of prevention and treatment in different countries are needed, and the information now published in our columns and in the report of the International Labour Office should go far towards the attainment of an object which all civilized nations must have equally at heart.

[1] *Protection of the Health of Seamen against Venereal Disease.* International Labour Office. Studies and Reports, Series P (Seamen), No. 2. Geneva. 1926. London: P. S. King and Son, Ltd. (9¼ × 6 in., pp. 72. Price 1s.)

TUBERCULOSIS IN NOVA SCOTIA.

The Department of Public Health of the Province of Nova Scotia has issued a statistical study of tuberculosis in the province during the years 1909 to 1925. It is noted that there has been a marked diminution in the number of deaths and a lowering of the rate. The improvement is limited almost wholly to the pulmonary form of the disease, and is most noticeable in the age group 20 to 49. From 0 to 5 years there is also a very marked drop in pulmonary tuberculosis, but from 5 to 14 very little change. The improvement in infants and young children is attributed to improved conditions in the home and to education in preventive measures. In the first half of the period the rural deaths were at a higher rate than the urban. In the second half of the period the position is reversed. In Nova Scotia, unlike England, the female rate is higher than the male. For these and other observations made the report offers various explanations. We deprecate, however, the implication conveyed in the statement: "The improvement shown has been limited largely to certain age groups, notably the sanatorium age groups." With so elusive a disease as tuberculosis it is perhaps a pity in giving statistics to label particular age groups in this manner. It is surely sufficient to establish the fact that mortality has been reduced at certain ages, to note then that many patients at those ages undergo sanatorium treatment, and subsequently to investigate any other possible factors in tuberculosis mortality at those ages, for the purpose of finding out if it is possible to correlate these factors. Further investigation seems to be needed to justify the inference drawn in the report that "for at least some of the improvement observable in connexion with the pulmonary disease credit ought to be given to the treatment facilities of the province."

HEART DISEASE IN NEW YORK.

We have received from the director of the New York Tuberculosis and Health Association a report from its Heart Committee (formerly called the New York Heart Association) of an investigation undertaken to explore the ground before attempting to deal with the prevention of heart disease on a national basis. The report is founded on a study of 1,000 heart cases, most of them attending the Bellevue Cardiac Clinic for Adults. The authors carefully guard against their conclusions on 1,000 cases being taken as true of 10,000 or 100,000. While pointing out the necessity of further detailed study if we are to proceed with intelligence in preventing heart diseases, they present certain conclusions, of which the following is a summary. The mortality from heart disease was about equal for the sexes in the higher age groups. Rheumatic heart disease seemed to be as common among males as among females. But in syphilitic heart disease the ratio of males to females was about 7 or 8 to 1, and arterio-sclerotic heart disease appeared to be much more common among males

to deal with their past deficits and to maintain a continually increasing number of beds. The number of hospitals whose annual income failed to meet their expenditure has fallen from 77 in 1920 to 49 in 1925. In addition to annual income the 118 hospitals have raised £167,000 for endowment, and £691,000 for building and equipment. The difficulties of these hospitals in the years immediately following the war are attributed to increase of expenditure and not to decrease of income. After having risen from £1,204,000 in 1913 to £2,808,000 in 1920, expenditure began to decrease, and fell to £2,594,000 in 1922, when there was some curtailment of work. Since then there has been an increase in work, and expenditure has increased; it reached £2,756,000 in 1924 and £2,906,000 in 1925, when there was a marked expansion in both in-patient and out-patient work; while the increasing expenditure in 1925 over 1920 was 3.5 per cent., the increase over 1920 in work was 8 per cent. in the in-patient department and 10 per cent. in the out-patient department. The increase in the volume of work was thus accompanied by a relatively lower expenditure in spite of the cost of the additional medical and surgical benefits provided by hospitals as the result of advances in medical and surgical practice since 1920.

The report contains sections of the nature of appendixes giving detals of the work and accommodation in the 118 hospitals, analyses of their income and ordinary expenditure, particulars of the more controllable items of expenditure, and group comparisons of the cost of working in the cases of the larger general hospitals, with and without medical schools; smaller general hospitals; cottage hospitals; hospitals for women; children's hospitals; ophthalmic hospitals; and hospitals for epilepsy and paralysis. It is announced that a fresh series of reports will begin next year when the new edition of the *Revised Uniform System of Hospital Accounts* will be in operation.

Treatment of Tuberculosis in Lancashire.

Sir Henry F. Hibbert, Bt., chairman of the Lancashire County Council, opened the Rufford Pulmonary Hospital, near Ormskirk, on August 5th. This new hospital has been constructed by adapting the buildings composing Rufford Hall, which was purchased by the Lancashire County Council in 1920; it provides fifty beds, and will receive patients more especially from West Lancashire. The total cost of the purchase and equipment was £31,844, and grants had been received from the Lancashire Insurance Committee and the Ministry of Health. Sir Henry Hibbert stated that the average cost per bed would be about half that in other hospitals. He added that the deaths from pulmonary tuberculosis in Lancashire had fallen from 107 per 100,000 in 1918 to 67 in 1925, and that the death rate in the county was less than the average for England and Wales. Lancashire had spent £170,000 on the treatment of tuberculosis; there were now fourteen dispensaries in operation, and the total hospital accommodation in the county had increased from 144 in 1913 to 860.

Rural Community Councils.

We have received the report of the Kent Rural Community Council for 1925-26. The council was established two and a half years ago as an independent non-official body of representatives of many organizations—official and voluntary—which are concerned in the welfare of the countryside. Apparently fourteen counties in England and Scotland have rural community councils, linked together through the National Council of Social Service. The council in Kent has assisted in organizing such movements as the County Playing Fields Association and the British Empire Cancer Campaign; it has convened conferences on such subjects as village organization, agricultural training and apprenticeship, the welfare of hop-pickers, and the development of drama in villages; it has given concerts in villages, country towns, and at schools; and it is now extending its activities in the direction of juvenile welfare and public health. By the promotion of juvenile welfare committees, the council hopes to obtain the discussion of social developments from the young people's standpoint, and to foster their interest in the Kent Education Committee's schemes for juvenile welfare and the County Council's proposals for the treatment of crippled children. Through a standing committee on public health, the council proposes to spread in the villages a better knowledge of public health administration. It is encouraging the formation of public health committees by village community councils. The experiment sounds interesting, though it has plainly many dangers. An enthusiastic public health reformer in some of our villages would not only find much to occupy his mind; he would possibly occupy his body in defending himself against the irate perpetrators of private and public nuisances.

Morison Memorial at Hartlepools Hospital.

On August 1st Princess Mary opened the new wing of the Hartlepools Hospital as a memorial to the late Dr. A. E. Morison, who was connected with the institution for twenty-three years. The new wing is a three-story building, and contains two wards and a children's ward, with accommodation for the whole of the nursing staff of the hospital. The cost of erection was about £10,000, towards which the joint committee of the British Red Cross and the Order of St. John of Jerusalem has contributed £5,000, and Messrs. J. Nimmo and Sons provided the children's ward. The hospital was originally built in 1857 and on two previous occasions additions have been made. By this new extension its accommodation will be raised from fifty to eighty-six beds.

New Hospital at Ebbw Vale.

The new hospital of the Ebbw Vale and District Voluntary Fund was opened by Dr. Rocyn Jones on August 11th. The fund was started in 1922, and the building contains three wards with accommodation for ten beds, an *x*-ray room, and staff quarters. Sir Ewen Maclean, who attended the opening ceremony, recalled his visit to Ebbw Vale fifteen years previously, when they had been struggling to establish the "free choice of doctor," a matter of the greatest importance both to patients and to the medical profession. The health scheme formulated by the Welsh Consultative Council had been temporarily held up by the difficult economic conditions. Sir Ewen Maclean believed, however, that before long it would be possible to put the recommendations into operation and so benefit the many crowded districts of Wales. As soon as the new scheme became effective all available hospital accommodation would be required, and the best consultative and executive skill would be provided in all localities. The council intended to establish a consultative centre in Ebbw Vale, and this would result in the statistics of the district being studied and plans made for the improvement of the public health of the community. Sir Ewen Maclean added that he believed that in his own lifetime they would see the materialization of a great scheme which would place Wales in the forefront in health matters in Great Britain, and perhaps in the whole world.

Scotland.

Scottish Research Work in Animal Diseases.

The annual meeting of the Animal Diseases Research Association was held at Moredun Institute, Gilmerton, near Edinburgh, on August 12th. The report for the year to March 31st last stated that research work was being carried on in laboratories rented from the Glasgow Veterinary College, pending completion of the new institute at Gilmerton and of laboratories in the Royal (Dick) Veterinary College. The research staff concentrated upon braxy, lamb dysentery, louping-ill, scrapie in sheep, and grass disease in horses. Lack of accommodation for the maintenance of farm animals at the laboratory at present available had seriously handicapped the work, but would be ample in the new institute, the building and equipment of which had already cost nearly £13,000. The Board of Agriculture continued to pay, as in previous years, two-thirds of the maintenance expenditure, and the association had to raise one-third from private sources. Part of this had been contributed by various county councils and agricultural associations.

England and Wales.

NOTIFICATION OF PUERPERAL FEVER OR PYREXIA, AND OF OPHTHALMIA NEONATORUM.

THE Minister of Health has issued amended regulations, to come into force on October 1st, relating to the notification of puerperal fever and puerperal pyrexia, and of ophthalmia neonatorum.

In a circular to the local authorities the Ministry states that experience has shown the incompleteness of the notifications of puerperal fever, and that this has resulted, not only in inaccurate and misleading statistics, but in hampering the effective prevention and treatment. The term "puerperal fever" is not precisely defined, and frequently a genuine doubt exists as to the correct diagnosis, while the implication of some slur on the patient or attendant may act as a deterrent against notification in doubtful cases. It is intended ultimately to replace the term "puerperal fever" by "puerperal pyrexia," but this cannot be done on the notifications without amending legislation. For the present, therefore, two forms of notification are to be used, one as at present, though with some alteration in its terms, embodying the words "puerperal fever," and the other "puerperal pyrexia." Puerperal pyrexia is defined as

> "any febrile condition (other than a condition which is required to be notified as puerperal fever) occurring in a woman within 21 days after childbirth or miscarriage in which a temperature of 100.4 deg. F. (38 C.) or more has been sustained during a period of 24 hours or has recurred during that period."

Medical practitioners, therefore, will now be required to notify, not only puerperal fever as heretofore, but all cases of pyrexia during the puerperium, irrespective of the cause to which the fever may be attributed. It is recognized that this requirement will lead to a great increase in the number of notifications, and that many cases reported will be relatively trivial, but the importance of securing adequate treatment in the early stage of infection is held to outweigh these objections. The Ministry believes, on the basis of reports from various maternity institutions, that pyrexia during the puerperium is not infrequently looked upon as a comparatively unimportant incident, and that proper precautions to prevent the spread of infection are at times neglected, with disastrous results. The new forms of notification declare that, in the opinion of the notifier, the patient is suffering from puerperal fever (or, in the second form, puerperal pyrexia), with the date of onset of the disease and of the birth of the child, and continue:

> I desire
> (i) to have a second opinion on the case;
> (ii) to have a bacteriological examination of (*a*) lochia, (*b*) blood;
> (iii) that the patient be admitted to hospital;
> (iv) that trained nurses be provided;
>
> *or*
>
> Facilities are available for all necessary treatment.
> (The inappropriate words are to be struck out.)

In the notification of puerperal fever a special form for the metropolis has still to be used, providing for the information required under the Public Health (London) Act, 1891, as to the origin of the case and whether it occurred in private or institutional practice. The covering circular adds that the facilities for assistance in diagnosis and treatment can most readily be provided by the local authority which administers schemes under the Maternity and Child Welfare Act, 1918, and such authorities and their medical officers are urged to do all that is possible to meet the requests of practitioners for special assistance. Practitioners so requesting may be required to supply information as to any conditions prior to labour which might have been factors in producing pyrexia, the names of all persons who made internal examinations, particulars of the clinical course of labour, the history subsequent to delivery, and any cases of specific fever, erysipelas, or puerperal pyrexia visited recently by the doctor or other attendant.

The amended regulations with regard to ophthalmia neonatorum place the duty of notifying such cases solely upon the medical practitioner in attendance. Under the existing regulations an obligation rests upon a certified midwife to notify any case in which she has reasonable grounds for supposing the existence of this condition, unless the case has already been notified by the practitioner. This dual responsibility has in some cases resulted in complete failure to notify; moreover, as midwives are required to call in medical help for any inflammation of, or discharge from, the eyes, however slight, and to send a notice to the local supervising authority, the requirement to notify ophthalmia neonatorum tends to confuse them as to their duty. It is to be made clear to midwives that they will still be required to summon medical assistance in all cases of inflammation or discharge and to advise their local supervising authorities.

The Ministry is of opinion that, following the reports or notifications, the proper authority to carry out the necessary measures of visiting and home nursing, or to provide hospital treatment where required, would be the one entrusted with the scheme for maternity and child welfare. In notified cases of ophthalmia neonatorum the medical officer of the maternity and child welfare authority should personally ascertain from the practitioner whether nursing or other assistance is needed. It is added that as parents sometimes object to the recovery from them by the supervising authority of the fee paid to the practitioner called in by the midwife, the authorities might consider the advisability of refraining from exercising their power of recovery in this class of case in view of the importance of promptitude in seeking medical aid.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

Three gratifying features of modern hospital administration are indicated in a statistical report on the income and expenditure of London hospitals for the year 1925,[1] just issued by King Edward's Hospital Fund for London; these are the great expansion of work, a relative reduction in its cost, and an increase in income. The report deals with 118 hospitals, containing 13,700 beds. During the year under review 240 additional beds became available, and the average number occupied increased by 500 over the corresponding figure for the previous year, thus raising the percentage of occupied beds from 81.4 in 1924 to 83.7 in 1925, and approaching what used to be considered the normal percentage of 86. The increased celerity in modern treatment is shown by the fact that, whereas the number of patients per occupied bed was 14.3 in 1913, it was 15.9 in 1923, 16.2 in 1924, and 16.4 in 1925. The average duration of stay for each patient has fallen from 25.5 days in 1913 to 23 in 1923, to 22.6 in 1924, and to 22.3 in 1925. The number of new out-patients, which showed an increase in 1923 of 37,000 over those of 1913, and a further addition of 56,000 in 1924, rose still higher in 1925, when there was an increase of 89,000 over the total for 1924, and of 182,000 over that for 1913. Out-patient attendances increased by 349,000 over those of 1924, and by 2,006,000 over 1913. The average attendances of each out-patient were 4.4 in each of the three years 1923-25, as compared with 3.5 in 1913. The total out-patient attendances in 1925 were 7,026,000, and the total number of new in-patients 187,700.

The combined income of the 118 hospitals amounted to £3,029,000, as compared with £2,918,000 in the previous year; the increase was wholly in ordinary income, legacies and other sources of extraordinary income showing a decrease of £115,000, as compared with 1924. Subscriptions and donations increased by £98,000, payments by patients by £74,000, and receipts from public authorities by £18,000. It is interesting to note that, whereas in 1913 payments by patients were £105,000, as compared with £648,000 in the year under review, receipts from public authorities amounted to £247,000, as compared with £2,000 in 1913. Grants from public authorities now amount to 30.1 per cent. of the total Fund income, as compared with 8.2 in 1913; payments by patients represent 21.4 per cent. of the total income. The income of the Fund as a whole is more than double that of 1913, and the great increase comes under the heading of "Receipts for services rendered." This steady growth in income is enabling hospital

[1] Statistical Report on the Income and Expenditure of One Hundred and Eighteen London Hospitals for the Year 1925. London: Spottiswoode, Ballantyne and Co., Ltd. 1926. 2s. 6d. net; 2s. 9d. post free.

very definite information he has specified them as not traced. His results are as follows:

Of 27 cases treated until the end of 1922, or earlier, 3 patients died after six months, 11 after one year, 4 after one and a half years, and 4 after two and a half years. Of the patients living to-day one has survived since 1918, and 2 are in the fourth year. Recurrence appeared in 2 other patients after two and a half years of clinical freedom; after further control treatment they have again become clinically free. Two patients were not traced at all; one was known to be living in January, 1923. Of 28 cases treated to the end of 1923, 2 died after six months, 6 after one year, and 3 after one and a half years, 2 after two years, 1 after two and a half years. Four patients are living to-day, and 10 have not been traced. Of 42 cases treated to the end of 1924, 6 died after six months, 12 after one year, 4 after one and a half years, 11 are living to-day, and 9 have not been traced. Of 37 cases treated to the end of 1925, one died after six months, 6 after one year, and 4 after one and a half years; of the remaining 26 cases 6 have relapsed already and have been receiving treatment up to last March.

THE CONNAUGHT HOSPITAL, POONA.

The new British Station Hospital, to be known as the Connaught Hospital, was opened in Poona on April 14th by the Commander-in-Chief of the Bombay Presidency. The main building consists of ground and first floors, which comprise three sets of wards each capable of accommodating ten to twelve patients. At one side of this building is a smaller block containing the operating theatre and a theatre for x-ray work. A separate building is provided for diseases of the eye, ear, nose, and throat, and some 300 yards away is a block of infectious wards. In addition to administration buildings, connected by covered passages, bungalows are being erected for the staff. The hospital still requires some internal rearrangement before it can be taken into full use, but when completed it will be the most up-to-date hospital in the Presidency of Bombay. It has been built on an open site at a high level, and takes its name from the fact that the Duke of Connaught was the originator of the old British Station Hospital, which forms part of the new institution. During the alterations which are necessary the temporary King George's Hospital is being used for medical treatment.

DELHI MEDICAL ASSOCIATION.

The heavy mortality among adults and children in India was the subject of an address given recently by the president of the Delhi Medical Association at its annual dinner. It was stated that whereas the death rate in 1923 in London was 12 per 1,000, in New York 13, in the city of Cawnpore it was 49.73, in the whole of India 25, and in Calcutta 28.4. The infantile mortality in London was 188, and in New York 181, but in Delhi it was 212, in Calcutta 294, and in Bombay city 624. To combat this high mortality the president urged that the Government should inaugurate a health insurance scheme to provide expert medical advice and treatment, especially in the villages, where more than 90 per cent. of the Indian population lived. The money required for this purpose could, he said, be obtained partly from funds acquired under this scheme, and partly from State grants. Local self-governing bodies should also be stimulated to greater activity in public health work, including educational campaigns. The Delhi Medical Association strongly approved the bill introduced by Dr. Rama Rao in the Council of State, to provide for the constituting of a General Medical Council in India to regulate medical education and keep a register. The president, referring to the scheme of reorganization of the Indian Medical Service, stated that a great injustice would be done to Indian officers if they were to be transferred to military employment to make room for British military officers who, henceforward, would alone treat British civil officers. He paid a high tribute to the Indian Medical Service with its long list of distinguished physicians and surgeons and research workers. He thought the Government should permit the Delhi Medical Association to send an accredited representative to the University of Delhi and the municipal committee. Colonel Franklin, supporting the proposal for a General Medical Council in India, claimed priority in having suggested such a scheme many years ago with Dr. Chandi Parshad in Indore. He believed that quackery would diminish with the growth of sound public opinion, and thought the day was not far distant when the civil surgeon would have disappeared and the whole country be included in a panel system.

PUBLIC HEALTH IN BENGAL.

Severe criticism of the way in which vital statistics are being kept in Bengal is expressed by Major A. D. Stewart, I.M.S., the director of public health, in the Bengal Public Health Report for the year 1924. Some improvement has occurred in this respect in rural areas, but in the towns, where the registration of births and deaths is compulsory, great laxity still obtains. Out of 115 municipalities offenders were only prosecuted in thirty-seven, and it is emphasized that until greater attention is paid to this matter improvement in the public health must be retarded. Although the cholera mortality in Bengal in 1924 showed a slight increase on that in 1923, the decline in the curve noticeable during the last few years continued. This is attributed in part to the fully trained staffs now employed in anticholera work by the municipalities in disinfecting water supplies, arranging anticholera inoculations, and providing for the education of the people; voluntary agencies have co-operated in this work with very good results. During the first six months of 1925 there was a recrudescence of small-pox in epidemic intensity. The mortality, though high, was not so severe as in the previous epidemic of 1919 to 1920. The number of deaths in the various places appeared to bear a definite relation to the density of the population; the towns were the chief centres of dissemination, and the improved travelling facilities led to increased spread of infection. The general decline in malaria observed since 1921 continued; it was more prevalent and the death rate higher in the rural areas than in the towns. The consumption of quinine throughout the province is as yet not commensurate with the prevalence of the disease. Antimalarial operations in the form of drainage schemes have been put into operation in the Banka Valley, at Meenglas, and in connexion with the rivers Singaran and Bhagirathi. Many voluntary village societies have been formed to spread information about malaria prophylaxis and to provide treatment; grants have been made by the Government in support of this work. The mortality attributed to kala-azar increased during the year, but this may have been due to better registration or more careful diagnosis; enteric fever was less prevalent. Deaths from rabies, pneumonia, and pulmonary tuberculosis were rather more numerous than in 1923, while the incidence and death rate of influenza diminished. The work of the Bengal Public Health Laboratory considerably increased during the year under review; it was found that the quality of the drinking water supplied by the municipalities had improved appreciably; settlement and slow sand filtration appeared to be better processes of purification than rapid filtration, which, when employed, required the assistance of chlorination.

AMBULANCE AND HYGIENE TRAINING.

The annual general meeting of the St. John Ambulance Association and the Indian Red Cross Society was held at Simla on June 24th, with the Viceroy in the chair. Field-Marshal Sir William Birdwood, presenting the annual report of the St. John Ambulance Association, emphasized the importance of education in treating accidents and sudden illnesses. Many deaths from drowning and snake-bite were being prevented through the first-aid training now available. Considerable progress had been achieved during 1925, and Indian States, railways, police, educational institutions, prisons, and mines had all joined actively in the work. The course in ambulance training had been taken by 10,340 persons, of whom 1,880 were railway employees. In the All-India ambulance competition at Madras teams consisting of warders, convicts, and boys from the reformatory schools took part, and one convict team came second in the contest for the Jagmal-Raja All-India Labour Ambulance Challenge Shield. The Mackenzie school course in hygiene, sanitation, and first aid, which had proved very successful in the United Provinces, had been recently instituted in other parts of India, and the Indian States had provided instruction

Unvaccinated Children in the West of Scotland.

In the report on the health and sanitation of Dumbartonshire for 1925, Dr. T. L. Thomson, medical officer of health, draws attention to the large percentage of unvaccinated children. It was highest in the Vale of Leven, where it amounted to 44.5 per cent. Attention is drawn in the report to the danger which would attend the accidental introduction of a case of small-pox into this community, for it would almost certainly produce an epidemic of great magnitude. Attention is also drawn to the fact that there is not yet any accommodation for the treatment of small-pox in this county.

Diagnosis of Small-Pox.

A recent bulletin of the public health department of Glasgow refers to the case of a patient who had been removed from a liner outward bound from Glasgow to Canada, which left on June 25th. The patient had, before his departure, resided in the central district of Glasgow. He had sickened on a liner on July 2nd, and had been removed from the ship at a quarantine station. It is obvious from the dates that if he suffered from small-pox he must have been infected in Glasgow. There had been four cases of chicken-pox in the patient's home, and there had been a small school epidemic of the disease in the district where he had resided. Two of the members of the patient's family suffering from chicken-pox at the time when the patient was infected had been successfully revaccinated. From the evidence it is therefore clear that the disease to which the patient had been exposed was chicken-pox. In the meantime examination of the patient's skin showed that its appearance was consistent with the disease from which he suffered having been chicken-pox. The case is interesting as showing the difficulty that exists in diagnosis between cases of chicken-pox and small-pox, and the complications that may ensue should the diagnosis be mistaken.

Ireland.

Centenary of the Coombe Lying-in Hospital, Dublin.

The centenary of the Coombe Lying-in Hospital, Dublin, will be celebrated next month by a congress. The governors of the hospital will hold a reception on the evening of Tuesday, September 14th, in the Royal College of Surgeons, where, on the following morning, the congress will be opened by the president, Sir William J. Smyly, M.D. Afterwards a paper on obstetrical teaching in Sweden will be read by Professor E. Möller of Lund, and a discussion will be opened by Professor Couvelaire of Paris, who will be followed by Professor Munro Kerr of Glasgow, Dr. Cassidy of Dublin, Professor Fletcher Shaw of Manchester, and Mr. Comyns Berkeley of London. A film on abdominal hysterectomy will then be shown by Professor Faure of Paris, and papers will be read by Professor Eardley Holland of London, on the unnecessary induction of labour, and by Professor Werner of Vienna, on the treatment of climacteric haemorrhages. In the afternoon a visit will be paid to the Coombe Hospital, and there will be a public meeting in the Royal College of Physicians. In the evening a dinner will be given in the Royal College of Surgeons by Alderman J. Hubbard Clark, chairman of the board of governors of the Coombe Hospital. On Thursday, September 16th, a discussion on "The lower uterine segment Caesarean section operation" will be opened by Professor Munro Kerr, who will be followed by Professor De Lee of Chicago, Professor Möller, Professor Eardley Holland, and Professor Werner. Afterwards some historical notes on two important advances in the practice of obstetrics and gynaecology will be read by Professor Donald of Manchester. "Three obstetrical principles" will be set out by Professor De Lee, and Professor Louise McIlroy will read a paper on some problems in ante-natal diagnosis and prognosis. There will be a polo match between Coombe Hospital and the All-Ireland Polo Club in Phoenix Park in the afternoon, and in the evening a special performance by the Abbey Theatre Company. On Friday, September 17th, Professor Hinselmann of Altona will read a paper on eclampsia, which will be discussed by Professor Eardley Holland, Dr. J. Hendry of Glasgow, Dr. Hugh S. Davidson of Edinburgh, and Dr. Gibbon FitzGibbon of Dublin. After this papers will be read by Professor R. W. Johnstone of Edinburgh on the early diagnosis of cancer, by Professor Beckwith Whitehouse of Birmingham on the cause of menstrual pain, and by Dr. F. Browne on intra-natal infection in the newly born. In the afternoon there will be a garden party in the Zoological Gardens.

India.

Treatment of Cancer at the Ranchi Radium Institute.

We have received from Lieut.-Colonel J. C. Vaughan, I.M.S., superintendent of the Radium Institute at Ranchi, an account of the treatment of uterine cancer and some statistical returns of general interest in view of the discussion at the Annual Meeting at Bath last year on the treatment of inoperable cancer of the female pelvic organs (Journal, 1925, vol. ii, p. 827).

He states that the practice has been to give an intrauterine application of 100 mg. of radium bromide in a glass capsule of 0.5 mm. section contained in a silver capsule of 0.5 mm. thickness enclosed in a brass capsule of 1 mm. thickness and surrounded by a rubber tube of 1 mm. thickness. This is kept *in situ* generally for twenty-two hours, and the application is repeated on the seventh or eighth day and again about ten days later. Fourth and fifth applications have been employed only when there has been an insufficient disappearance of the growth about three weeks after the third application. The first application is generally associated with an external application over the fundus uteri of usually 250 to 300 mg. radium bromide, which is only repeated with the second or third application in cases of extreme growth. This external application is generally kept on for the last fifteen hours of the twenty-two hours of the whole treatment. The whole period of treatment usually lasts from about a month to six weeks, of which the first three weeks cover the period on which three applications have been given. The outside applications consist of radium screened with glass, silver, and brass, as described above, with a distance screen of loofah sponges or cotton-wool of 4 to 5 cm. in thickness. In exceptional cases with very large cervical growth involving the vault of the vagina where the os has been practically occluded with growth the first application is made by either placing the tube in contact with the growth, or burying it in the growth, or inserting it just inside the os and packing the vaginal walls round it. At the second and third applications it has been occasionally possible to make the application an intrauterine one, and it is in these cases of very extreme growth that usually a fourth or even a fifth application has been employed. The interval between applications was usually determined by the intensity of the reaction (nausea, vomiting, and general malaise) after the removal of the radium, allowing an interval of at least five days after these symptoms have ceased. There was no variation in dose in cases of cancer of the body of the uterus or of the vaginal wall. In the latter there was always an intrauterine as well as an intravaginal arrangement of applicator tubes where there was fixation and involvement of the uterine ligaments. The outside application took the form of many small tubes, usually of 5 to 50 mg. of radium bromide each, spread out over the area between the symphysis pubis, the spot where the fundus was palpable, and the anterior superior spine of the ilium of the affected side, or more often over both these triangles where both sides were affected, and even when bilateral involvement was not absolutely demonstrable by a digital vaginal examination, but when from the patient's general condition it was judged wisest to apply the external radium pack as well as the intrauterine application. An application over the sacrum has been often combined with the above. In this way each patient received 2,002 milligram hours of each intrauterine application and about 4,500 milligram hours of external application, or 3,551 milligram hours each combined in external and internal applications.

The Ranchi Radium Institute was opened on April 1st, 1922, and from then until December 31st, 1925, it has dealt with 27 cases in 1922, 37 cases in 1923, 57 cases in 1924, and 51 in 1925, making a total of 172. Excluding patients who were not treated, being too advanced for any treatment, those who abandoned treatment, and who died in the first few months after having been seen, Lieut.-Colonel Vaughan has classified the remaining 134 in four groups, from which conclusions as to the value of the treatment can be drawn. Of these cases 21 have not been traced definitely; he believes that some are clinically free from disease, but in the absence of

I submit that if Dr. Nyulasy studies the subject closely he will find some forces at work which, judging from his letter, he has not sufficiently regarded, and perhaps not at all. The whole individual must be considered. I have laboured at this subject since 1907, and I trust not in vain. Both volumes of my *Statics* were sent to the *Medical Journal of Australia* for review. The review of the first appeared on March 22nd, 1919, and that of the second on February 13th, 1926. A perusal of these may entice Dr. Nyulasy to read these books, and if he does he will obtain more fully my point of view. If subsequently he can show I am in error I shall be grateful.—I am, etc.,

Rugby, Aug. 7th. R. H. PARAMORE, F.R.C.S.Eng.

SIR,—I read the letter of Dr. Frank A. Nyulasy in your issue of August 7th (p. 274) with particular interest, for I had the good fortune to be the assistant of Professor W. E. Fothergill at the time he brought his operation for the cure of prolapse to its present state of perfection.

The letter calls attention to the publication about 1914 of some anatomical and other facts, which appear to call for comment.

First, from the anatomical standpoint dealing with the special supports of the uterus, we have the earlier work of Cameron, Derry, and other anatomists stating the fact that the special supports of the uterus are lateral structures in the subperitoneal tissue, and especially in connexion with the blood vessels. This work was quoted by Fothergill before the Royal Society of Medicine in December, 1907. Elliot Smith described the same structures in the *Journal of Anatomy and Physiology* (April and June, 1908). Again, in the *Journal of Obstetrics and Gynaecology* (March, 1913) Moritz published sections showing the extension of smooth muscle of the viscera into the parametrium and paracolpos.

Secondly, as to operation, the wide dissection into the lateral fornices exposing the parametrium has been carried out in Manchester since 1910. In 1913 Fothergill published in the BRITISH MEDICAL JOURNAL his technique in utilizing these structures in the cure of genital prolapse.

Lastly, with regard to nomenclature, let us stick to anatomical facts, and deal with parametrium and paracolpos. There is no "ligament" in question. A good deal of the work done in Manchester in this connexion appears to have escaped the notice of your correspondent.—I am, etc.,

Manchester, Aug. 14th. JOHN WEBSTER BRIDE.

MINER'S NYSTAGMUS.

SIR,—In the issue of July 17th a note was published (p. 128) commenting on the unanimous conclusion of the Miners' Nystagmus Committee that the essential factor in the production of miner's nystagmus is deficient illumination. My letter of July 31st was written in support of Dr. Freeland Fergus's contention that brighter illumination was no remedy for the disease; in it I gave a very brief summary of the work I had previously done on this subject (published May 8th, 1923). I dealt with over 36,000 underground workers in the counties of Northumberland and Durham, and found that 0.90 per cent. of the coal hewers developed nystagmus during the year 1922, whereas only 0.24 per cent. of the non-hewers acquired the disease during that year. All who understand statistical methods will admit that my results definitely confute the Miners' Nystagmus Committee's conclusion as far as Northumberland and Durham are concerned, for they show that coal hewing, or something connected with coal hewing, is a far more important factor than deficiency of light in the production of the disease.

Dr. Vernon's reasoning (August 14th, p. 323) is hard to follow; he disputes my conclusion, although he admits apparently that coal hewers are more subject to nystagmus than other underground workers; I would incidentally point out that, at any rate in our pits, where the airways are not "stone-dusted," it is the non-hewers who attend to "the props which keep the roof from falling." Had Dr. Vernon read my original paper he would have found that I had dealt with the subject of eye-strain as well as with the vision required for hewing (and, I might add, for accurately placed hammer blows), which calls for an accurate sense of projection far more than a high macular visual acuity, as Dr. Freeland Fergus has pointed out in his instructive account of what he terms "alignment."—I am, etc.,

Newcastle-upon-Tyne, Aug. 15th. A. S. PERCIVAL.

PROPHYLACTIC VACCINATION OF THE NEWLY BORN AGAINST TUBERCULOSIS.

SIR,—The editorial article in the JOURNAL of March 27th (p. 581), on prophylactic vaccination against tuberculosis (B.C.G.), was a guarded comment, as the results were considered incomplete.

In analysing the figures of Calmette I am struck by the very high mortality from infantile tuberculosis in France as compared with that of the cities in England; also the deaths of infants of tuberculous parents under 1 year are higher than those observed or generally notified in this country. The difficulty of diagnosis of tuberculosis in infants and the varied causes of infantile mortality render deductions from Calmette's statistics very perplexing.

When the total deaths in infants treated by Calmette's method during a definite period of a particular year are examined no appreciable difference from those treated by isolation in Paris by Professor Couvelaire is to be noted. The figures quoted in the article in the BRITISH MEDICAL JOURNAL are that 586 infants were vaccinated by Calmette from July, 1924, and observed by him for eighteen months; of these 96 (16 per cent.) died of various causes, and 11 (1.8 per cent.) died presumably of tuberculosis. About the same time for a similar period Couvelaire had 26 deaths (17 per cent.) out of 151 isolated babies. Thus Calmette's 17.8 per cent. total mortality was higher than Couvelaire's; 11 deaths from tuberculosis out of 107 from all causes of vaccinated infants gave 10 per cent., which is higher than that known in England for the age period. The advantage of Calmette's method was that the infant lived with the parents under probably worse conditions as a result of vaccination.

In the absence of the after-history of all the 5,182 infants vaccinated by Calmette conclusive deductions are also not possible. From the results quoted in the *Lancet* of May 29th, 1926, it is noted that the deaths from tuberculosis were smaller in the first group, which included known tuberculous contacts, than in the second group of a more recent and shorter period of observation. Thus there were 2 deaths from tuberculosis in the first group of 564 infants, of whom 231 were tuberculous contacts; the deaths from other causes were 43, and time of observation one year to eighteen months. On the other hand, in the second group of 753 infants there were 9 deaths from tuberculosis; the deaths from other causes were 53, and observation lasted six months to one year.

The following figures are typical of infantile tuberculosis deaths in our industrial areas. In Leeds, in 1924, the deaths from pulmonary tuberculosis numbered 525; the percentage of deaths at ages 1 to 5 was 2.8, and at ages 5 to 15, 4.4. The figures for Sheffield for the same year were: 447 deaths; 1.1 per cent. at ages 1 to 5, and 3 per cent. at ages 5 to 15. Taking all deaths of infants under 1 year (1924) there were 34 (1.6 per cent.) tuberculosis deaths out of 2,113 in Liverpool. The average deaths of such infants a year for six years in Leeds was 960; of these, 34 (3.5 per cent.) died of tuberculosis and meningitis. Our experience in Leeds is that the fatal type of tuberculous meningitis accounts for a high incidence of tuberculosis deaths under 1 year, generally from sources where the existence of tuberculosis is not known to the health authorities. In 1924 there were 61 deaths from tuberculous meningitis in Leeds, of which 11 were under 1 year. In 1925 the 32 deaths from tuberculous meningitis in children under 15 were traced by our nurse visitors; 7 occurred in infants under 1 year, and of these 2 only were known to have tuberculosis in the family.

Out of 464 children under 15 found tuberculous as a result of contact examination or reference by school medical officers in Leeds in 1925, only 6 died during that year; there was no death under age 5. Death notification, however, revealed over 80 deaths from tuberculosis in children under 15.

for 1,500 students. Sir B. N. Mitra, reporting on the work of the Indian Red Cross Society, announced that the total membership of the branches had increased from 2,815 in 1924 to 4,200 in 1925. The headquarters organization had carried on an active public health propaganda, and the society was represented at three conferences outside India. During the coming year its representatives would visit the fourth English-speaking conference on child welfare in London and the second Oriental Red Cross Conference at Tokyo in November. The Viceroy, congratulating both organizations, observed how the Government needed and welcomed the assistance of such voluntary bodies in promoting good health, sanitation, and general hygiene throughout the country.

Correspondence.

ANTIGENS FOR THERAPEUTIC IMMUNIZATION.

SIR,—In company doubtless with other clinical pathologists in search of the ideal antigen, I welcome Sir Thomas Horder's researches on immunogen antigens (July 31st, p. 177) as a new hope.

At the same time, it does occur to me that there are conceivably vulnerable points in this research work, brilliant though it is. First of all, does it follow that agglutination, complement fixation, and bacteriotropin tests are necessarily criteria of immunity? Admittedly they imply infection, but we know that in gonorrhoea and tubercle, for instance, victory over infection is signalized by a *negative* complement fixation test, and in syphilis by a series of negative tests. And, again, the healthy human body furnishes its own immunity from the virus, the whole virus, and nothing but the virus, and it seems that in so far as we adhere to nature's methods we shall succeed, and in so far as we deviate from nature we shall fail. Hence I still pin my faith to the autogenous vaccine. The production of a good autogenous vaccine demands very great care in the selection of culture media and the separation of organisms, and also upon a rapid intensive growth of the first subcultures. More failures are probably due to faulty preparation than is commonly believed, and there are some organisms—for instance, certain strains of streptococci—which need very special inducement for rapid growth. May not the autogenous vaccine fall into partial disrepute from insufficient individual attention in an overworked laboratory? Very easily.

I believe that to deprive an antigen of its toxin is a mistake. Is not the toxin of diphtheria the best immunizing agent we know? Is not diphtheria antitoxin the very crown of immunological success? Can we disregard the toxic element in other instances? I do not think we can afford to do so. To do so is to deviate from nature's principle, and we are not above nature in this matter.

My experience of detoxicated and defatted vaccines and other mutilated products is that they are clinically inert, and I am not alone in this view. I have used immunogens, but only in three instances, so perhaps it is unfair to state the result.

With others, I await convincing clinical records, and, whilst admiring the ideal and the brilliant technique, such experience as I have leads me to be a little sceptical as to the future of "immunogens."—I am, etc.,

Eastbourne, Aug. 10th. GEOFFREY SHERA.

THE DEVELOPMENT OF VAGINAL OPERATIONS FOR GENITAL PROLAPSE.

SIR,—Dr. Frank A. Nyulasy (August 7th, p. 274) is quite right in his opinion that the so-called Mackenrodt's ligaments "are not mere bands of firm fibrous tissue" arising from the ischial spines and inserted into the cervix and vaginal vault. As he says, "they arise from the uterus and pass outwards to be inserted into the pelvic fascia and the lateral wall of the pelvis, and they are packed with bundles of smooth involuntary muscle fibres. . . ." This was pointed out by Eduard Martin in 1911[1]; and in vol. i of my *Statics* (1918), p. 263, I say: "It is, moreover, to be noticed that these thickenings, which are most marked centrally—that is, where the cervix happens to be—all disperse and fray out peripherally." It is clear that these thickenings are not "ligaments" in the ordinary sense; nor are they "tendons,"[2] comparable with those we meet in relation with striated muscle. They contain, as Dr. Nyulasy asserts, much non-striped muscle, which emanates from the uterine musculature. Dr. Nyulasy, however, misses this point, that from their structure—in virtue of the non-striped muscle content—they are not capable of sustaining the pressure which during active life is continuously tending to depress the uterus, and which during growth from the infantile to the adult form not only caused the uterus, at one time an abdominal organ, to enter the pelvis, but was actually responsible for the pelvic distension—that is, of a space limited by bones.

The immediate cause of Dr. Nyulasy's letter was my statement that no one has cured a case of complete prolapse of the uterus by operating on the visceral connective tissue alone.[3] He states that the late Dr. Arthur Nyulasy "rectified a number of such cases by shortening these tissues alone." The abdomen was opened, the "cardinal ligaments" isolated, and "stitched (as loops) to the front of the cervix." In the same way, it may be argued that simple amputation of the cervix, or this combined with anterior colporrhaphy, is at times followed by a visceral retention; and that such result was due either to an inflammatory reaction set up or to a veritable shortening of the visceral connective tissue concerned. To have expressed myself completely, I should have added the words: "unless other factors come into play." Thus, I do not need to be assured that the procedures mentioned may cure prolapse; the state of prolapse, however, has to be defined, and the manner of living subsequently, also. Even keeping patients in bed suffices to cure "pudendal hernia" of whatever magnitude; but what we desire is a visceral retention in the presence of general activity. In this respect I have read that Dr. Stacey Wilson cured a case of protrusion by getting the patient constantly to "draw up" the parts—that is, by constantly making the movement which we all make when defaecation appears imminent and yet must be postponed.[4] The spectacle of complete perineal tears—that is, into the rectum—without any prolapse whatever is also before me. Palpation shows how in such cases the levator ani muscles are hypertrophied. All the time—during every minute of the day—such patients are constantly maximally contracting the levator muscles, not to prevent an exit of the uterus or of the anterior vaginal wall, but to prevent the untimely escape of rectal contents. The result is a most efficient sphincter to the pelvic outlet—a most efficient determinative of a visceral (not only of a faecal) retention. Thirdly, I have the results of my levator plastic occasionally appearing. In this, the position of the laterally displaced arm (or arms) of the pelvic floor musculature is fixed more medially—nearer the pubic arch. My cases, naturally, have been few; but the results, in spite of occasional failures, have exceeded my expectations. To cure "prolapse," or, as I call it, "pudendal hernia," we must obtain a good closure for the pelvis, either by physiological reaction or by surgical technique.

Dr. Nyulasy, however, does not refer to such a mechanism; he does not state that in the patients, on whom the procedure he refers to was performed, the pelvic outlet (which measures 4 by 5 inches) was not efficiently occluded, or did not become efficiently occluded, as a result of the treatment, of which a most essential part is the rest in bed. If a patient with a genital extrusion be kept in bed the pelvic floor aperture, stretched by the extrusion, has a chance to retract. Similarly, if visceral parts, which previously entered the aperture and caused and maintained its dilatation, are removed, and if the general health of the patient is caused to improve, the levator muscles naturally retract, the loop they form takes up a more advantageous position, and, without anything else, an improved physiological response comes into play.

[1] Martin: *Der Haftapparat der weiblichen Genitalien*, Berlin, 1911, pp. 47, 51.

[2] Tweedy: The Lower Uterine Segment and Uterine Tendons, *Lancet*, i, 1919.

[3] BRITISH MEDICAL JOURNAL, 1926, i, 502.

[4] Stacey Wilson: Cure of Uterine Prolapse by Re-education of the Muscles Constricting the Vagina, BRITISH MEDICAL JOURNAL, 1924, ii, 1041.

spent a very happy evening with him at gatherings of the profession in Stoke and afterwards in his own house, where to a "booky" man his library was irresistible. He collected books with great discrimination and had many rarities, particularly in the way of first editions of modern authors. His taste in prints and pictures also was remarkable, and it was with great pride that he took his guests into his drawing room, where he had some fine specimens of modern painters, particularly of Munnings. The news that he has left some of his money to build and endow an institute in his native village and part of his books as the basis of a library will not be surprising to those who know of his intense local patriotism, which was shared equally between the place of his birth and the town of his adoption, for the Art Gallery at Stoke is to receive a number of his valuable pictures. The sympathy of his friends will go out to his devoted niece, Miss Elsie Bissett, who took charge of his house after the death of Mrs. Russell, and to his brother, Dr. A. W. Russell of Glasgow.

J. F. HALL-EDWARDS, L.R.C.P.Ed., D.M.R.E.,

Surgeon Radiographer, General Hospital, Birmingham.

On August 15th Dr. J. F. Hall-Edwards, one of the earliest *x*-ray workers in this country, died at Edgbaston.

Dr. Hall-Edwards was the son of Dr. John Edwards, who practised at Sparkbrook. He was born on December 19th, 1858, and was educated at King Edward's School and at Queen's University, Birmingham, where he was assistant demonstrator of physiology from 1880 to 1882. He settled in practice at Moseley, where he devoted his spare time to photography and photo-micrography. Fascinated by Röntgen's discovery of *x* rays in 1895, Dr. Hall-Edwards in 1896 took up radiography, and in 1899 was appointed radiographer to the General and the Royal Orthopaedic Hospitals in Birmingham. He was also radiographer to the Birmingham Dental Hospital and to the Birmingham and Midland Eye Hospital, and consulting radiographer to the Guest Hospital, Dudley. When the South African war broke out Dr. Hall-Edwards volunteered, and was appointed *x*-ray expert to the Imperial Yeomanry Hospitals at Deelfontein and Pretoria, and received the Queen's medal with four clasps. It was on his return from South Africa that Dr. Hall-Edwards began to suffer from *x*-ray dermatitis. He lived in constant pain for five years, and at length had his left forearm amputated. Later on similar trouble led to the amputation of the four fingers of the right hand. A Civil List pension was granted him in 1908. In spite of his disabilities he obtained a temporary commission as major in the R.A.M.C. on the outbreak of war in 1914, and acted as consulting radiographer to the First Southern and other military hospitals in the neighbourhood of Birmingham. He was also a medical examiner at the Birmingham recruiting station, addressed recruiting meetings, and organized charity performances in aid of war funds.

After the war he not only continued to practise as a radiologist; he turned his attention to municipal interests, was elected to the Birmingham City Council in 1920, and became a member of the Public Health, the Public Libraries and Museum, and the Art Gallery Committees. He was elected an honorary member of the British Medical Association at the Annual Meeting last month at Nottingham for his work and sufferings in connexion with *x* rays. Mr. Alfred Lucas, who expressed the thanks of the Birmingham Central Division, said that Dr. Hall-Edwards was a very loyal member of the Association, and had read many papers before his Branch and before various sections at the Annual Meetings. In 1922 Dr. Hall-Edwards was awarded the Carnegie Hero Trust medallion, together with an annuity of £100. He was ex-president of the British Electro-Therapeutic Society, vice-president of the Röntgen Society, and an honorary member of the American Röntgen Ray Society. Amongst other applications of *x* rays to which he gave attention was the detection of flaws in metals. As a recreation he adopted painting, using his brush by means of the thumb which remained on his right hand and an artificial finger.

ROBERT HENRY COLE, M.D., F.R.C.P.,

Physician and Lecturer in Mental Diseases, St. Mary's Hospital, Paddington.

It is with great regret that we have to record the death of Dr. R. H. Cole, which occurred on August 10th at his residence in London. He was born in 1866, and was the son of the late Mr. R. C. Cole of Ealing. Before taking up medicine he was in the civil service. He received his medical education at St. Mary's Hospital, Paddington, and took the diplomas of M.R.C.S., L.R.C.P. in 1889. In 1892 he graduated M.B. at the London University, and proceeded to the M.D. in 1895. He took the M.R.C.P. in 1896, and was elected to the Fellowship in 1917. In 1891 he became resident physician at Moorcroft Mental Hospital, and retained this position until 1907, when he started consulting practice. He threw himself with energy into his new sphere of work, and rapidly gained a reputation as a sound and reliable psychiatrist. He was appointed to the position of lecturer on mental diseases at St. Mary's Hospital, and also lectured at the Post-Graduate College, West London Hospital, and at Bethlem Royal Hospital. His other appointments included those of physician in mental diseases, St. Mary's Hospital, visitor for the Middlesex institutions for mental defectives, Home Office visitor to the State Inebriate Reformatory, and physician to the special hospital for officers, Palace Green. For several years he was examiner in psychological medicine at the University of London.

Cole was particularly interested in the administrative and legal aspects of psychiatry, and as secretary of the Parliamentary Committee of the Royal Medico-Psychological Association from 1912 to 1921, and subsequently as chairman of this committee up to the time of his death, he was responsible for much valuable work. During his period of office as chairman he rendered invaluable service in connexion with the amending bill of the Asylum Officers' Superannuation Act and the Mental Treatment Bill, and he took a prominent part in the preparation of the evidence for the Royal Commission on Lunacy and Mental Disorder. He did much good work also in connexion with the registration of mental nurses under the Nurses' Registration Act. The problem of crime in relation to insanity was one in which he was specially interested, and his views on this subject were both sound and practical.

In 1925 Cole was made president of the Psychiatric Section of the Royal Society of Medicine. For his presidential address, in which he showed a characteristic breadth of view, he chose "Progress of psychiatry" as his subject, and gave an excellent summary of the directions in which his specialty had advanced during the past few years. He was not a voluminous writer, but contributed a number of papers to the various medical journals. He was the author of a *Textbook of Psychiatry* which is now in the third edition. He was a member of the British Medical Association, and was secretary and vice-president respectively of the Section of Psychological Medicine at the Annual Meetings in 1903 at Swansea and 1909 at Belfast.

Cole will be greatly missed by a large circle of friends, and it will be difficult to fill his place in the Royal Medico-Psychological Association, for which he worked so untiringly. He was a kind, unassuming man, and extremely conscientious, thorough, and painstaking. Where patients and their relatives were concerned nothing was too much trouble, and he devoted himself unsparingly to their interests.

In 1907 he married the widow of Dr. Arthur T. White, who survives him, and to her and his son and daughter we extend our sincere sympathy.

The death occurred suddenly at Gullane on August 10th of Dr. R. J. JOHNSTON of Edinburgh; he had been ailing for a considerable time and had gone to Gullane for a rest, but his death was quite unexpected. Dr. Johnston graduated at Edinburgh University with honours in 1892, and in the course of his professional career had been connected with numerous medical institutions in the city. He was anaesthetist to the Edinburgh Dental Hospital and medical superintendent of St. Raphael's Home for

These figures seem to show that tuberculous infantile mortality is a negligible factor in our large cities for infants under 1 year. Secondly, the fatal type so prevalent is the meningeal or acute form from sources not generally known to the health authorities, rather than from tuberculous homes. Granting the effectiveness of Calmette's vaccine, unless all the babies born are vaccinated infantile deaths from tuberculosis can hardly be reduced in England. It will mean that in a city like Leeds about 8,000 babies born every year should be vaccinated to reduce the 34 deaths from tuberculosis among the 960 that die at 1 year. To vaccinate only the tuberculous contacts in English cities, who seem to acquire a better natural immunity, can hardly diminish the mortality from tuberculosis under 1 year. Nor is there any proof that as a result of vaccination incidence of or mortality from tuberculosis can be prevented in later years in those vaccinated.—I am, etc.,

Leeds. Z. P. FERNANDEZ, M.D., D.P.H.

OBSTETRICS IN GENERAL PRACTICE.

SIR,—It might be of interest to practitioners to see the classified statistics for puerperal sepsis in Glasgow for 1925, which were as follows:—Cases of sepsis per 1,000 confinements: midwives 7.5; maternity institutions—outdoor 11.2, indoor 16.9; doctors 12.1.

I am sure that even Dr. Munro Kerr cannot find here grounds for removing midwifery from the field of the general practitioner to the safer (!) hands of institutions and midwives.—I am, etc.,

Dennistoun, Glasgow, Aug. 11th. JAMES COOK, M.B.

DEFENCE OF ASSISTANTS AND LOCUMTENENTS.

SIR,—The letter in your issue of July 31st from the secretaries of the Medical Defence Union and the London and Counties Medical Protection Society, followed by the letter in your issue of August 7th from the secretary of the Medical and Dental Defence Union of Scotland, is apt to convey the impression that members of any of these bodies are completely or almost completely covered in the matter of risk arising out of the actions of their assistants or locumtenents, and Dr. Farquhar Murray has performed a valuable service in drawing attention in your issue of August 14th (p. 324) to certain weak spots in our armour in this respect.

The main lesson to be learnt is the old one that, as far as possible, every qualified medical man should be a member of one or other of these defence societies. This is especially necessary in these days when the public are much more critical than was formerly the case regarding the quality of the medical service which they receive.

But the second and almost equally important point is, as Dr. Murray emphasizes, that there should be a comprehensive reciprocal agreement between all three medical defence societies so that a principal in practice or a member of a visiting staff of a hospital should be completely covered regarding the acts of his assistants, locumtenent, or house-surgeon.

If this could be done, I am sure that it would react, not only to the benefit of the profession, but also to the benefit of the defence societies.—I am, etc.,

GILBERT I. STRACHAN, M.D., F.R.C.S.,
Honorary Secretary, Cardiff Division,
Cardiff, Aug. 8th. British Medical Association

The Services.

ARMY MEDICAL SERVICE.

Honorary Surgeons to the King.

HIS MAJESTY has approved of the appointment of the following Major-Generals to be Honorary Surgeons to the King:

Major-General H. P. W. Barrow, C.M.G., D.S.O., O.B.E., late Royal Army Medical Corps, with effect from June 1st, 1926, in succession to Major-General C. E. Pollock, C.B., C.B.E., D.S.O., late Royal Army Medical Corps, who has retired.

Major-General D. Harvey, C.M.G., C.B.E., M.D., late Royal Army Medical Corps, with effect from July 10th, 1926, in succession to Major-General J. R. McMunn, C.B., C.M.G., late Royal Army Medical Corps, who has retired.

Major-General Barrow is Director of Hygiene at the War Office; before that he was Director of Hygiene and Pathology in India. Major-General Harvey is Director of Pathology at the War Office. When Assistant Professor in Pathology at the Royal Army Medical College in 1906 he was sent to India as a member of a commission to investigate enteric fever, and after his return was appointed a member of the Royal Society commission on sleeping sickness, and spent two years in Nyasaland.

Obituary.

JOHN RUSSELL, O.B.E., M.B., C.M.ABERD.,

Honorary Consulting Physician, North Staffordshire Infirmary.

WE regret to announce the death, on August 10th, of Dr. John Russell, formerly of Burslem, at the age of 64. Dr. Russell was born at Insch, Aberdeenshire, in 1862, and was educated at the Universities of Aberdeen and Dublin. He graduated M.A. in 1883, and M.B., C.M.Aberd. in 1886. Forty years ago he commenced general practice as assistant to Dr. Samuel Oldham at Burslem, and succeeded to the practice on Dr. Oldham's death. He was appointed assistant honorary physician to the North Staffordshire Infirmary in 1898, and later became honorary consulting physician to that institution, as well as to the Haywood Hospital, Burslem. He also held the posts of public vaccinator and police surgeon for Burslem, and medical officer to the North-East Burslem District Union. He took a keen interest in industrial disease, and was regarded as an authority on the subject of lead poisoning in particular, of which he saw many cases among the workers in the Potteries. He was the author of an important paper entitled "Basophilia in lead poisoning," which was published in the *Journal of State Medicine* in 1915. He was frequently consulted in cases of industrial disease, and his services were in constant demand by various important commercial enterprises in Staffordshire. He was an ex-president of the North Staffordshire Medical Society and of the Staffordshire Branch of the British Medical Association, as well as ex-chairman of the North Staffordshire Division.

In his younger days he was a keen member of the old Volunteers, and held a commission as captain in the Burslem Company of the 5th Volunteer Battalion of the North Staffordshire Regiment. He was prominent in Red Cross work, and for a number of years was assistant county director of the British Red Cross Society. During the war he rendered valuable service in organizing the Red Cross work in connexion with convoys to the local war hospitals, and for this and other services he was created an O.B.E. He was a prominent member of various art societies, and one of the best known public men in the Potteries. Dr. Russell is believed to have provided the original for Mr. Arnold Bennett's character of Dr. Stirling of Bleakridge, who appears from time to time in the novels of the five towns.

Owing to ill health Dr. Russell retired from practice early this year, and went to reside at Grantown-on-Spey. Before his departure from Burslem he was the recipient of presentations from the Caledonian Society, the Ceramic Art Society, the North Staffordshire Art Society, the British Red Cross Society, the Stoke-on-Trent Insurance Committee, the Burslem Golf Club, and numerous friends and patients.

THE MEDICAL SECRETARY writes:

Dr. Russell will be a great loss to the British Medical Association, for he was for many years one of its outstanding and most stalwart supporters in Staffordshire. He represented North Staffordshire in the Representative Body from 1906 to 1923 and again in 1925. He was at the time of his death chairman of the Stoke-on-Trent Local Medical and Panel Committee, and, with the exception of 1916, had represented Stoke at the Annual Conference of Local Medical and Panel Committees since its formation. He was one of those men who rarely spoke at a conference, but those of us who knew him well realized that his influence in his own area was very great, and was always used with great effect as well as good judgement. His kindness and hospitality were unbounded, and I have more than once

accommodated 9,484 patients. The report, which is freely illustrated, is published at 6d., and together with the quarterly magazine of the Mission, *Without the Camp*, for which the subscription is 1s. a year, post free, may be obtained from the Secretary of the Mission, 33, Henrietta Street, W.C.2.

THE new regulations amending the Dangerous Drugs Regulations, the draft of which was issued in the *London Gazette* of June 4th and noted in our columns of June 12th (pp. 998 and 1001), have now been confirmed by the Home Secretary. Copies are shortly to be made available by H.M. Stationery Office.

MR. BASIL GRAVES will be the guest of honour at the thirty-first annual congress of the American Academy of Ophthalmology and Oto-laryngology, to be held at Colorado Springs on September 13th. He will give an address on the surgery of senile cataract.

THE first impression of the *Theory and Practice of Radiology* by Dr. Bernard Leggett has been destroyed by fire, and the publishers, Messrs. Chapman and Hall, fear that it may be some months before the volume can be issued.

THE late Dr. William J. Miskelly of Everton, Liverpool, who died on May 13th last, left estate of the value of £10,079, with net personalty £9,323. Subject to two life interests he leaves the whole of his property to the Royal Medical Benevolent Fund.

THE British Guiana Society for the Prevention and Treatment of Tuberculosis came into existence in 1907, and in its annual report for 1925 it is stated that five dispensaries and one hospital are now in active work. There is great need for a whole-time salaried medical officer for tuberculosis; at present the work of the society is being carried on voluntarily. It is hoped that an additional hospital for tuberculosis will be available very shortly. The work is maintained by grants received from the Government of British Guiana, the Georgetown Town Council, and to a smaller extent from private sources. It is added that each year between 250 and 300 people die of tuberculosis in the colony, and that more energetic preventive work is necessary.

PROFESSOR BRUMPT, member of the Académie de Médecine, has been awarded the Herbert-Fournet prize of 6,000 francs by the Société de Géographie.

THE annual meeting of the German Pediatric Society will be held at Düsseldorf from September 16th to 19th, when the following subjects will be discussed: injury to the skull at birth; the child and sport. Further information can be obtained from the secretary, Professor Goebel, Universitäts-kinderklinik, Franzozenweg, Halle.

PROFESSOR OTTO LANZ, director of the surgical clinic of the University of Amsterdam, has been made honorary doctor of medicine of Cologne University.

IT is proposed to elect seven honorary freemen of the City of Leeds; among them is Sir Berkeley Moynihan.

REGULATIONS UNDER THE THERAPEUTIC SUBSTANCES ACT.

ADVISORY COMMITTEE.

THE Therapeutic Substances Act, 1925, provides that the Regulations to be made under the Act should be framed by a Joint Committee consisting of the Minister of Health, the Secretary for Scotland, and the Minister of Home Affairs for Northern Ireland, and that they should have the assistance of an Advisory Committee. This has now been constituted as follows:

Sir George Newman, K.C.B., M.D., Chairman (appointed by the Minister of Health).
Mr. John Jeffrey (Scottish Board of Health).
Dr. Thomas Houston (Ministry of Home Affairs for Northern Ireland).
Dr. H. H. Dale, C.B.E., F.R.S. (Medical Research Council).
Sir Nestor Tirard, M.D. (General Medical Council).
Dr. C. O. Hawthorne, F.R.C.P. (British Medical Association).
Dr. J. H. Burn (Pharmaceutical Society of Great Britain).
Dr. J. F. Tocher (Institute of Chemistry of Great Britain and Ireland).

Dr. Houston is joint lecturer in medical jurisprudence at Queen's College, Belfast. Dr. J. H. Burn is the director of the laboratories recently established by the Pharmaceutical Society to carry out some of the tests contemplated under the Act. Dr. J. F Tocher, F.I.C., is lecturer in statistics in the University of Aberdeen, and analyst and agricultural analyst for Aberdeen and other northern Scottish counties.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

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Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

ASTHMA AND BRONCHITIS.

"P." asks for suggestions in the treatment of a youth, aged 21, with chronic asthma and bronchitis; for the past four years he has tried various remedies, including a course of vaccine treatment, but the attacks tend to grow in intensity and duration.

TREATMENT OF DYSCHEZIA.

"H. M." asks whether treatment by drugs, massage, or electricity would be helpful in a case of dyschezia in a woman. The patient alternates between constipation, which makes her very uncomfortable, and diarrhœa, if purgatives are used. Glycerin and water enemata have been employed; the latter seemed to suit her best and are at present the sole form of treatment, except dieting and exercise. There seems little sign of the sigmoid colon and rectum recovering their normal tone by these measures. The patient is highly egocentric.

URINARY STAINS.

DR. A. H. SKINNER (Hankow) asks which green or blue dye is the safest to use as a test for renal efficiency in the presence of slight haematuria. He finds phenol red hard to distinguish when the urine is tinged with blood, and methylene blue, if injected in small doses, is destroyed by the liver. Are there, he asks, any violet dyes that are safe and easy to detect?

PRESERVATION OF RUBBER INSTRUMENTS.

WE have again received a question as to the best way to preserve rubber gloves and tubing. The replies to previous inquiries may be summarized as follows: Lieut.-Colonel J. A. NUNN, Army Veterinary Department, stated that he had kept rubber instruments in the plains of India throughout the hot weather in an airtight tin box with a small quantity of kerosene oil in a gallipot; the oil evaporates and must be renewed from time to time. Dr. M. ASTON KEY, Southsea, recommended swabbing five or six times a year with a saturated solution of turpentine dissolved in methylated spirit. The spirit evaporates, leaving a very fine coat of turpentine, which is quickly absorbed by the rubber; he added that when the turpentine was applied the instruments ought to be manipulated, and all that can be hung up and not coiled. Dr. JAMES MACMUNN said that, after trying various chemical applications, he had found the most effectual plan was to keep the instruments in thick layers of cotton-wool. If old they should be plunged occasionally into hot water, well dried, wrapped again in the wool, and placed in airtight cases. Oily lubricants should not, he thought, be used for rubber catheters; he recommended a modification of Gouley's mucilaginous lubricant.

LONGEVITY IN A FAMILY.

DR. ANDREW S. BARR (Glasgow) writes: On July 31st (p. 236) Dr. A. E. Roche gave the ages of his father's family, brothers and sisters, nine in all, with combined age of 638 years (average age over 70), and he asks "Can any reader beat this?" The answer is "Yes." My mother, aged 63 years, is the youngest of a family of nine, all of whom are alive and active. Their ages are as follows: 83, 81, 78, 76, 74, 72, 69, 67, 63. Total, 663 years. Average, 73.7.

permanently disabled sailors and soldiers, an institution which was established during the later stages of the war in the Grange district of Edinburgh, and did valued and successful work for seriously injured ex-service men. As honorary physician to the Actors' and Music-Hall Artistes' Association, Dr. Johnston was brought into contact with a large number of entertainers, and he was himself an agreeable raconteur and possessed a repertoire of songs which made him much sought after at social gatherings of the medical profession. Dr. Johnston is survived by a wife and four children. The interment took place at Newington Cemetery on August 13th, and was attended by a large number of friends, members of the medical profession, and a detachment of the City Police, to which Dr. Johnston had acted as a divisional surgeon.

Dr. William Alfred MacMahon Garry, who died on August 7th, in his 62nd year, at his residence in Liverpool, was educated at Queen's College, Galway, and the Catholic University of Dublin, where he obtained the diplomas L.R.C.P.I., L.R.C.S.I. and L.M. in 1889. After holding appointments in Dublin and Salford, he practised in Liverpool for forty years, and was honorary physician to the Hospital of Providence of Aigburth and visiting physician to the Priory, Allerton, for mentally deficient children, and to St. Gabriel's, Woolton. He contributed two gynaecological articles to the British Medical Journal in 1890. Dr. Garry, who had devoted himself particularly to the service of the poor in Liverpool, among whom he was very popular, had been in bad health for some time before his death.

The death is announced of Dr. Maxime Ménard, who was one of the first to devote himself, some thirty years ago, to the therapeutic use of the *x* rays. He suffered severely from the special skin affections the rays produce, and his condition was much aggravated by his indefatigable exertions during the war. Only a few months ago we recorded the fact that he had been awarded the Legion of Honour, and had received a prize from the Académie des Sciences.

Medical News.

The committee of the Research Defence Society has decided to found a "Stephen Paget Memorial Lectureship," the lecturer and his subject to be connected directly or indirectly with research in order that a better appreciation of the value of medical and surgical studies may result. Each lecture, which will be given annually or biennially, at a university or other centre, will carry with it an honorarium of £20, and the expenses of the lecturer will be met by the society. Though no special appeal for funds is being made, the committee will, if desired, allocate for this purpose any donations received.

During next week at the Post-Graduate Hostel (Imperial Hotel, Russell Square, W.C.1) Mr. W. McAdam Eccles will open a discussion on when not to operate for hernia (Tuesday, August 24th, at 9 p.m.), and Mr. R. J. McNeill Love will open another discussion (Thursday, August 26th, at 9 p.m.) on the treatment of acute appendicitis. All medical practitioners are cordially invited. Last week Mr. A. P. Bertwistle described how the silhouette radiogram could be used in the interpretation of clinical signs. It is prepared by scratching the outline of the soft parts, which are always visible on the film of the negative, with a mounted needle before printing. This does not interfere with the bone definition, while it serves to give the less experienced observer his bearings. A radiogram so prepared demonstrates congenital deformities, such as Sprengel's shoulder, absence of the radius, spina bifida, thyro-glossal cysts; fractures such as Colles's fracture, greenstick fracture of the radius, and that of the patella due to muscular action; it shows the cause of the bulbous finger-tip and spindle-finger of periosteal whitlow and tuberculous dactylitis, and, moreover, demonstrates the presence of wasting. It indicates the depth of foreign bodies and sinuses, and for publication enhances bony definition.

The Fellowship of Medicine announces that at Queen Mary's Hospital, Stratford, a two weeks' intensive course in medicine, surgery, and the specialties, with operations, lectures, and demonstrations in all departments of the hospital, will begin on August 23rd. The City of London Maternity Hospital holds a special course in obstetrics each week, instruction being given during the whole day. An intensive course at the Westminster Hospital, covering all branches of medicine, surgery, and the specialties, and occupying the whole of each day, will extend from September 20th to October 2nd. On September 13th the Infants Hospital will commence a fortnight's course in the diseases of infants; lectures and demonstrations will be given each afternoon, and a visit will be paid to Thavies Inn Venereal Diseases Centre on the Sunday. At the Royal Free Hospital Dr. C. B. Heald will give four lecture demonstrations on treatment by electrotherapy on September 22nd, and the three succeeding Wednesdays, at 5.15 p.m. An ophthalmological course will be held at the Central London Ophthalmic Hospital from September 6th to October 2nd, and at the Bethlem Royal Hospital a series of lecture demonstrations will be given on Tuesdays and Saturdays at 11 a.m. from September 7th to October 2nd. An all-day course in orthopaedics will be held at the Royal National Orthopaedic Hospital from September 20th to October 2nd. Copies of all syllabuses, the general course programme, and the Fellowship journal may be obtained from the Secretary, 1, Wimpole Street, W.1.

The Ministry of Health has issued a circular (No. 724) to local supervising authorities, which contains an explanation of the Midwives and Maternity Homes Act, 1926, Part I of which comes into force at once, and Part II, which deals with the registration of maternity homes, on January 1st next. A note on the scope of the new Act appeared in last week's issue (p. 319). The circular, which includes a form of application for the registration of a maternity home as required under the new Act, may be obtained from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, price 3d. net, or through any bookseller.

The Middlesex County Council in 1911 decided that whenever a vacancy took place the areas of the coroners for Central and East Middlesex should be combined. By the death of Mr. A. M. M. Forbes, Dr. George Alexander Cohen is now coroner for the whole division. He has also been appointed by the Crown coroner for the Duchy of Lancaster, which comprises Enfield, Southgate, and Tottenham.

The Home Secretary gives notice that he has withdrawn from Dr. Frederick George Lewtas, M.R.C.S., L.R.C.P., the authorizations granted by the Regulations made under the Dangerous Drugs Act, 1920, to duly qualified medical practitioners to be in possession of and supply raw opium and the drugs to which Part III of the Dangerous Drugs Act, 1920, applies. Any person supplying Dr. Lewtas with raw opium or any of the drugs to which Part III of the Dangerous Drugs Act, 1920, applies will be committing an offence against the Acts.

In a recent number of the Journal (July 31st, p. 213) the report of the Rockefeller Foundation for 1925 was noticed, and now in rapid sequence comes the review of the work of the Rockefeller Foundation for 1925 by the president, Dr. G. E. Vincent, who gives in simple, popular language and under headings sometimes intriguing, such as "A world memory for biology," "International trade in men and ideas," and "By-products of team work," a summary of the Foundation's manifold benefactions and achievements during last year. In 1925 there were only three cases of yellow fever in all the Americas, but new cases have since been reported from North Brazil. There is good evidence that yellow fever originated in Africa and was conveyed in slave ships from the West Coast to America, where it was formerly believed to be indigenous. In July, 1925, the International Health Board established yellow fever headquarters at Lagos in Nigeria. Dr. Vincent pays a tribute to the memory of two workers for the Rockefeller Foundation—Henry R. Carter, a pioneer in yellow fever control, and Samuel T. Darling, an expert in malaria, who was killed in a motor accident in Syria. Attention is again drawn to the use of Paris green, "so fatal to the potato bug," in killing the larvae of the malaria mosquito. The campaign against hookworm disease, which is so insidious and thus contrasts with the dramatic incidence of yellow fever, was vigorously waged during 1925 in eighteen countries, where nearly a million and a half people were treated. The Foundation has to exercise discretion, and as many as 631 formal applications for help were not granted.

The fifty-first annual report of the Mission to Lepers states that during 1925 a considerable improvement was effected in the medical equipment of the existing institutions for the treatment of lepers. In India the leper home at Purulia in Bihar is being enlarged, and new buildings were opened at Valathorasalur in Madras. A new leper hospital has been erected at Tsinan-fu in China. During the year the total number of patients under treatment in the forty-eight institutions controlled by the Mission was 7,467, while grants in aid were given to twenty-six other institutions which